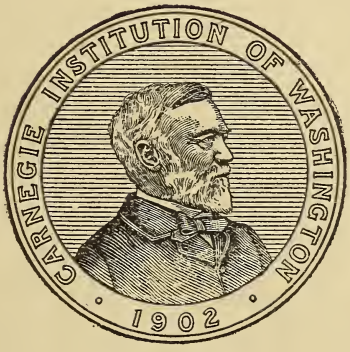
SISSANO

MOVEMENTS OF MIGRATION WITHIN AND THROUGH MELANESIA

BY
WILLIAM CHURCHILL



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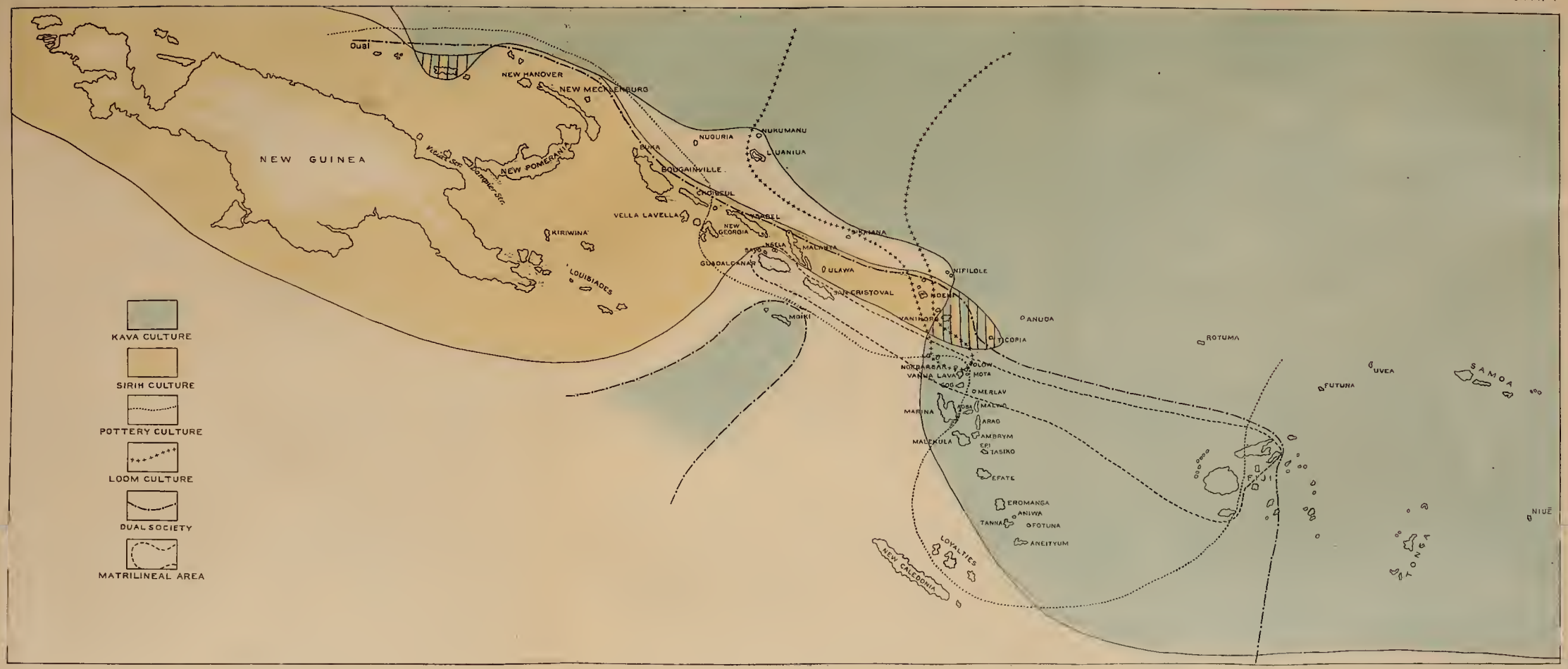

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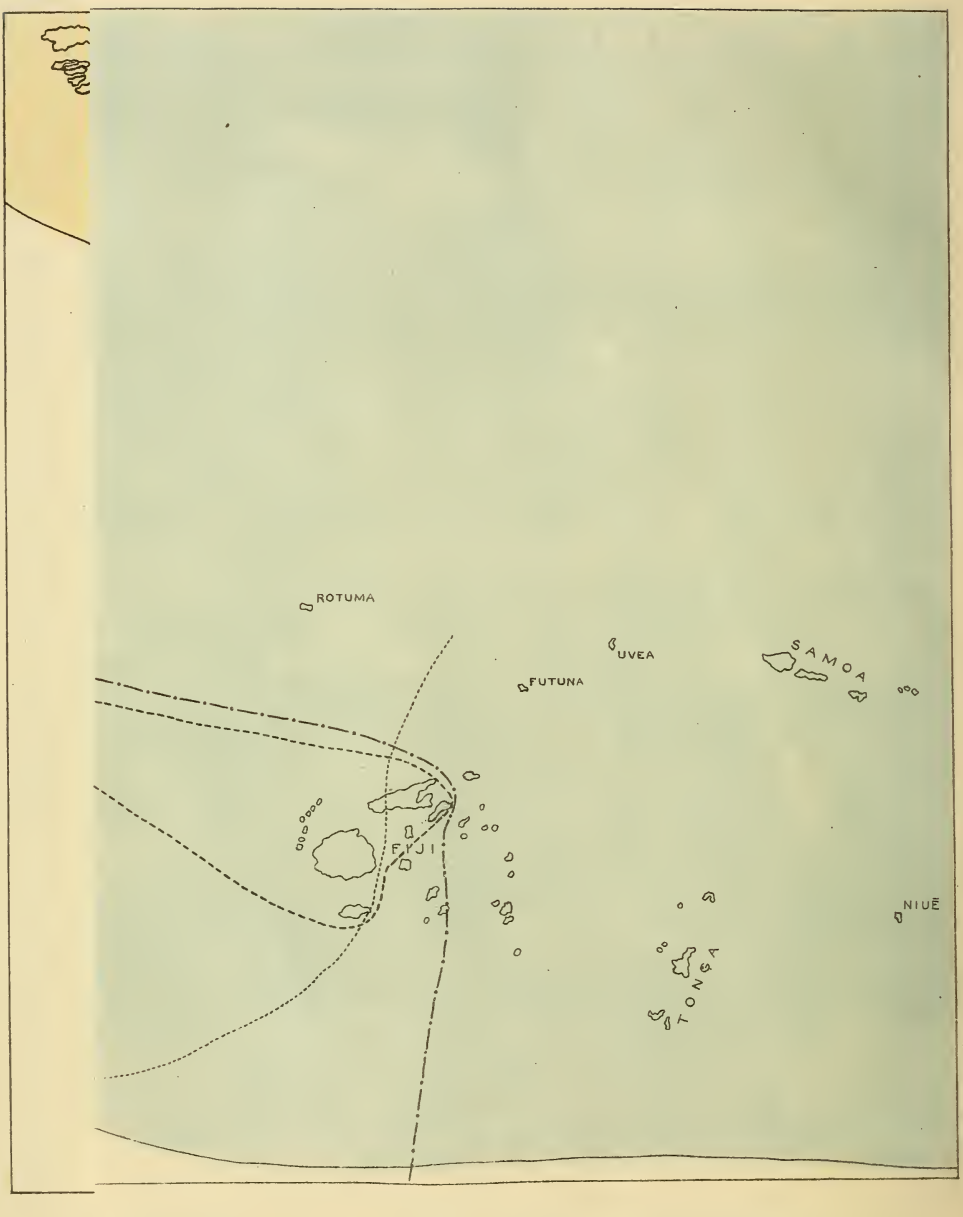
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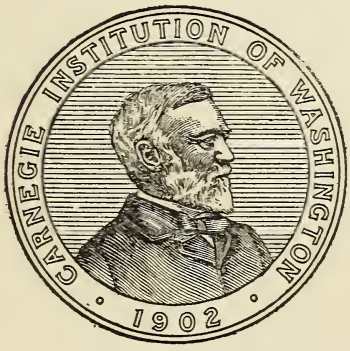

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SISSANO

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CHAPTER I.

SOURCES OF MELANESIAN MATERIAL.

In the course of our investigations into the anthropogeography of the Pacific area we are soon brought to recognize that, while a certain thread is drawn through the varying patterns of the fabric, the quality of our information varies widely in the several districts into which that area has been grouped. From a motive of merely temporary convenience it will be just as well to revive from the older systems of geography the once familiar designation "Oceanica," which was added as a sort of supplement to the list of the continents of the world. When first employed the term was intended to gather up all the minor units of the Pacific and adjacent Asiatic sea, so that no part of the earth's surface might escape the ritual ceremony of being bounded on the north by this and on the south by that other, and of having a capital situated on such and such river. The mind cramped in youth by that sort of geography—I believe that the thin and very square volume covered in slaty blue paper decorated with the whole world reduced to a pair of pancake twins bore the name of one Monteith—finds the real geography, the kind that lies at the back of beyond, quite unorthodox.

It has been given me to find no little geography of the sort which one approaches with sails close-trimmed to a steady trade-wind breeze, which comes upon the sight as first a mere notch upon the horizon in a negative manner of distant vision, then appears a blue cloud which turns to green slopes and mountain peaks arising from the ring of coral and the ever-dancing circlet of thunderous foam. In such geography I confess a particular fondness for Bougainville of the Solomons, the island which should be the particular habitat of the Bougainvillea, but is not, since no one has arisen to provide a synoptic relation between botany and geography. I have coasted Bougainville through all its length, I have penetrated its interior a dozen miles and thought myself lucky that I could retrace exactly the miles of my inward path from a people who incline to extend a somewhat pressing invitation to dinner in which the relation of guest to viand is quite simply stated in terms of gastronomy. Fond as I am of Bougainville, the influence of a now remote Monteith has been so strongly set in grain that I find myself apologetic because this so shudderingly delightful island of my fancy has no capital upon any river, nothing whatever which can be committed to memory as metropolis. A charming land, but geographically incomplete.

Monteith's Oceanica, as I find myself forced to remember it, began at Sumatra and ended at Sala y Gomez. It included between the western S and the eastern S, a decoration which suggests the collar

of SS which lord mayors wear in London at Guildhall dinners, all of Indonesia, all of Melanesia, all of Polynesia, all of Micronesia, the grand divisions which now are found better to serve our purpose and which have generally cast old Oceanica into the storehouse of waste timber of geography. Two of these oceanic divisions have been very satisfactorily studied. In Indonesia we have reasonably complete acquaintance with a dominant race which shows considerable uniformity throughout its subdivisions. In Polynesia we find the same condition. In each area we discover certain contamination elements which offer but slight problems to the ethnologist; as between the two areas we find a thread of union by which the older students of systematic ethnology were led into error, but which we now employ as a valuable clue for our guidance through the maze of a folk-movement for which we have no documents. Micronesia has its own set of problems, very interesting and seemingly very intricate when we pass beyond the thread of Polynesia and Indonesia; but the equatorial groups of sun-baked islands are not to engage our attention in the present studies.

Melanesia, with which we are to deal, lies between Indonesia and Polynesia. Either it connects or it parts those two of the four great oceanic divisions which we have indicated as set upon a satisfactory basis of knowledge. Upon the charts it is seen to begin at or in the vicinity of New Guinea; its southern point is at the Isle of Pines, lying in the New Caledonian complex; its eastern limit is in Fiji. It is subdivided, not ethnically but rather as a result of the slow progress of discovery, into the Fiji Islands, New Caledonia, the Loyalty Islands, the New Hebrides, the Santa Cruz Group, the Solomons, the Bismarck Archipelago, the Admiralty Islands.

It is important that we fix in mind what is the present stage of our information as to Melanesia, for when we refer to Melanesia in our studies and use the descriptive adjective Melanesian it is essential that we have a full appreciation of what its connotation really is. The fact that all these names of the grand divisions of Oceanica are formed on the same model, that they come into mind almost as a paradigm of a single stem, makes it particularly important that we shall inform ourselves as to whether Melanesia and Melanesian really carry the same weight of meaning as Indonesia and Polynesia, as Indonesian and Polynesian.

Geographically we are well informed upon Melanesia. Its discovery history is as good as that of Polynesia. All the great adventurers of the Pacific have included the two in their explorations of the South Sea. We have the records of Quiros and Mendaña, of Cook, of Bougainville, of Dumont d'Urville, and it is within this area that La Pérouse met his fate. In more recent years, since Wilkes set the pace in his masterly mapping of Fiji and its reefs, the navies of Ger-

many, France, and Great Britain have interrupted the tedium of guard service with the accurate determination of geographic positions.

In the second line of knowledge, the intensive study of individual communities in their social life, Melanesia falls far below the other divisions. A beginning has been made; we have Prebendary Codrington's somewhat diffuse work, Parkinson's careful account of thirty years in St. George's Channel of the Bismarck Archipelago, Rivers's brilliant study of the social units of the New Hebrides, a few records of missionary endeavor in one of the straitest sects which may yield to wearisome search scanty glimpses of the life of Melanesian folk. From these sources we derive important information on the cultural history of the several peoples, but there is by no means sufficient information on which to base more than the most cursory comparative study. We have still less information in the domain of anthropometry; the records are few and so scattered over the area that we are far from a conspectus; the most that we can derive from their comparison is the recognition of the possibility that more than one race is included within the designation of Melanesians.

Until our knowledge of Melanesia has been brought to a higher stage, the chief reliance in our studies must rest upon the linguistic record. Of course this is not to be considered final in the determination of race and affinity, but it is so much the best material available that we are justified in utilizing its data for the establishment of comparative investigation. Yet even here our knowledge of Melanesia is of very unequal advancement. We find three stages clearly marked. In the first we have discovery records—more or less scanty collections of words gathered by explorers; in the second stage we have works which purport to be dictionaries of a few languages; in the third are the essays which assume to state the problems of Melanesian philology and in some sort to solve them.

Since our study of Melanesians must, as already set forth, rest most largely upon the speech record and the use which we make of it, it is essential that we pass under more detailed review these three several stages, in order that we may evaluate the records and estimate the importance which each may possess in our work.

The first, the discovery record, need not detain us here. In this monograph we are to subject to intimate examination the discovery record of one new-found language, and we shall find it advantageous to include the general consideration with the particular examination of the discovery of the Sissano. We note, however, as an essential preliminary, that such works as Codrington's "Melanesian Languages" and Ray's report on the languages of Torres Straits are at bottom discovery records.

In the second, the vocabulary or dictionary stage, we are to find our best material, for each of these works purports to be such a gram-

mar and dictionary of the language with which it deals as may equip the stranger to speak it. In the scholastic idiom the words vocabulary and dictionary connote generally a physical difference in size, a third degree of space being introduced with the term lexicon. In this connotation the best of the Melanesian dictionaries occupies no more space than is required of a vocabulary, nor is there any such breadth of treatment of the individual vocables as would serve to raise the work into dictionary dignity.

In this class we find so-called dictionaries of the Fijian (a speech at least half Polynesian), of Efaté, of Mota, of Aneityum, all of southern Melanesia. Then after a long interval we find a dictionary of the Pala, of the Tami, of the Bongu in the German possession of New Guinea and the Bismarck Archipelago. The extent of these vocabularies is a function of the condition out of which they arise, the need which is recognized by the white man of superior culture to communicate with the inferior black in terms of such speech as is or as may be made comprehensible to him.

To satisfy this need the white man resident in Melanesia subjects the Melanesian to an alien speech, or else he devotes his attention to the acquisition of some acquaintance with the Melanesian speech with whose speakers he has elected to cast his lot. So far as this relates to the Melanesian the controlling circumstance lies in the attitude of the white man. If the newcomer regards the Melanesian as sheaves to be garnered, the result is the painful acquisition of Melanesian speech and ultimately a system of grammar and a dictionary; if, on the other hand, he regards the Melanesian as the garnerer of sheaves in an industrial as opposed to a pietistic sense, there results the jargon, the now familiar Beach-la-Mar. Commerce, industry, plantation life employ the jargon as a lingua franca for readiness of communication in a complex of mutually incomprehensible tongues; missionary endeavor sets before itself the task of codifying so much of the speech in which it engages its efforts as may serve to make a means of establishing the sacred text on a plane of communicability, and in addition so much more of the vernacular as may serve the ends of exposition and the no less important end of securing the welfare of the missionary. This somewhat rigid adhesion to the ideas which inhere in the Bible and to the words necessary to communicate them have had a tendency to limit the extent of the printed vocabularies of Melanesia. Fairly representative of the vocabulary of this type is the dictionary of Mota, with about 5,000 entries, the learned authors having been at pains to explain that it does not purport to be exhaustive. In the northern area of Melanesia we are pleased to observe that the German missionaries have compiled vocabularies more instinct with the genius of the speech and less narrowly confined to their specific, and what may fairly be described as professional, needs.

Since we have mentioned the numerical sum of one of the dictionaries of Melanesia, we may properly give passing consideration to the size of the vocabulary of these savages. From time to time it has interested popular fancy to compute the average vocabulary of the lower classes in our civilization. There seems to have been in this amusement no particular precision in the establishment of what shall be regarded as a vocabulary unit to be counted. In general it has been proposed that the English hind—for in the United States a more rigid compulsion in elementary education is operative against these speculations—has a working vocabulary of not much beyond a thousand vocables, and by increments of 500 at each step the higgler, the small tradesman, and the tinker, who is always an outland man and increases culture by voyaging along the broad highway, may attain to the high sum of 2,500 words with which to traffic in the affairs of life as it presents itself to him. Be this as it may, and it is scarcely worth our while to regard the speculation as other than curious, the condition among the Melanesian savages is radically different. He knows no social gradation of education; in his society there is no distinction between the learned and the uncouth; in effect, that which anyone knows is known by all; the only difference in vocabulary is that which must exist between the inexperience of youth and the stores of the aged and which reaches its highest point in a few very ancient men who retain names of former customs which have passed out of use in the advance of progress. We have seen that the Mota dictionary, avowedly incomplete, contains 5,000 vocables. In the course of recent study directed upon one of the least-known languages of the Philippines, I had occasion to compute the extent of the vocabulary of a circumjacent and to a certain extent allied folk, the Visayas. In the Visayan dictionary compiled by Fr. Juan Félix de la Encarnación we find 12,000 vocables, and the Visayas are scarcely more advanced upon the road of civilization than the men of Mota or other of the islands of Melanesia. Accordingly we feel justified in appraising the best of our working vocabularies of Melanesia as representative of barely 50 per cent of the languages with which they deal, and from that highest level we deal with material which dwindles rapidly down to the level of mere word lists.

Thus we see how imperfect is the equipment with which we may give value to the third stage in which our Melanesian material has been presented to use, that which has assumed the form and method of comparative philology. Some of the material in the second class is prepared in such a manner as to fit it for consideration in this third class; some even of the primal class of discovery record comes to us equipped with the machinery of comparison. The dictionary of Efaté affords an excellent instance of the mingling of the second and third classes. The prime object of the author appears to have been to

adjust the speech of the people under his charge to the establishment of his speculative theory that all the people of the island area, denominated by him the Oceanic race, derive from some pre-Mosaic Semitic stock.

Prebendary Codrington is our standard authority for southern Melanesia. His work falls within the first class by reason of the fact that he provides more or less extended notes upon the grammar of 34 languages between the Loyalties and the southern Solomons. In his vocabularies, however, he sets his work distinctly within the third class; he presents in tabular form for convenience in comparison a series of 70 vocables in 43 languages. Such comparison is interesting as far as it goes, but it is clear that the material is far too scanty to serve as the foundation for a valid theory of the interrelations of the languages thus briefly noted.

In the linguistic report of the Cambridge Torres Straits Expedition Mr. Ray has pursued the same method. For the Mabuiag and the Miriam he records vocabularies of several hundred items; for the languages of Cape York Peninsula his record falls into a table of 35 vocables in 12 languages; from the coasts of British New Guinea, now officially styled Papua, he extracts languages of two classes which he designates Papuan and Melanesian. He subjects the material in each case to tabulation of a list of the same 154 vocables, which he treats with varying fullness of record—46 languages in the Papuan class, 39 in the Melanesian.

Captain Friederici also combines exploratory and comparative work in his study of the languages of the Bismarck Archipelago and adjacent coast of New Guinea. He has recognized that the tabular method has the advantage of facilitating ocular examination of material, but that the very mechanical system which produces this advantage sacrifices the intimate detail which is necessary to a proper comprehension of the material involved. The three authorities exhibit a growth in method as this difficulty was recognized. Codrington provides a rigid table, Ray a series of tables with footnotes of the utmost terseness. Friederici has hit upon a method of synoptical tables which adds greatly to the logical value of the information therein presented. Three columns he assigns to Indonesia, generically to the Bahasa Tanah and Alfuros of Ceram, of Buru, and of northeastern Celebes respectively; next, and centrally situated, comes the column dealing with the speech of his particular study, that of the Barriai group in western New Pomerania; three similarly generic columns are used to carry the investigation still further—western Papuo-Melanesians, Solomons, and New Hebrides. I employ the genus suggestion in describing this extremely flexible system because in each column it is possible to include material from specific languages pertinent thereto. The notes succeeding these tables are as complete as it has been possible for the author to make them, in many

cases amounting to concise monographs upon the ethnic or linguistic problems which present themselves.

It has seemed pertinent to offer this brief comment upon the manner of linguistic treatment practised by our principal authorities, for in the work of each we find an assumption that there exists a Melanesian race, and Friederici proposes carefully elaborated argument to establish as fact that this Melanesian race is not autochthonous, that it has left traces of its sweep of migration upon the area which it now occupies, just as the Polynesian race has left like memorials of its culturally higher, longer, and perhaps wider migration, and that from these traces he may establish the source of the Melanesians in peoples included in Indonesia within the somewhat higher culture of the Malayans.

These are points upon which the present inquiry is addressed. The material upon which our comparative investigation is based is contained in the following works; and since we shall have to make incessant reference to one or other, I have added in this list the short designation under which each is cited:

CODRINGTON. *The Melanesian Languages.* By R. H. Codrington, D. D., of the Melanesian Mission, Fellow of Wadham College, Oxford. Oxford, 1885.

RAY. *Reports of the Cambridge Anthropological Expedition to Torres Straits.* Volume III. Linguistics, by Sidney H. Ray. Cambridge, 1907.

POLYNESIAN WANDERINGS. *The Polynesian Wanderings: Tracks of the Migration Deduced from an Examination of the Proto-Samoan Content of Efaté and other Languages of Melanesia.* By William Churchill. Carnegie Inst. Wash. Pub. No. 134. 1911.

DEUTSCH-NEUGUINEA. *Wissenschaftliche Ergebnisse einer amtlichen Forschungsreise nach dem Bismarck-Archipel im Jahre 1908.* II. *Beiträge zur Völker- und Sprachenkunde von Deutsch-Neuguinea.* Von Dr. Georg Friederici, Hauptmann a. D. Ergänzungsheft Nr. 5 der Mitteilungen aus den Deutschen Schutzgebieten. Berlin, 1912.

MELANESISCHE WANDERSTRASSE. Ut sup. III. *Untersuchungen über eine Melanesische Wanderstrasse.* Berlin, 1913.

SUBANU. *The Subanu: Studies of a Sub-Visayan Mountain Folk of Mindanao.* Part I. *Ethnographical and Geographical Sketch of Land and People.* By Lieut. Col. John Park Finley, U. S. A. Part II. *Discussion of the Linguistic Material.* By William Churchill. Carnegie Inst. Wash. Pub. No. 184. 1913.

CHAPTER II.

THE SISSANO COMMUNITY.

It may be asked, and that not improperly, why we approach the problems of Melanesia through so exiguous a medium as a mere fragment of the speech of Sissano when we have the more considerable vocabularies of the Bongu, the Tami, the Pala, and the Mota.

A determining reason inheres in the foregoing statement. We have dictionaries of a few of the languages called Melanesian. In the period, less than thirty years, in which these languages have been studied through the methods of comparison, there has arisen a certain mass of assumptions which in the passage from hand to hand have tended to become fixed as prejudices. Just because the Sissano is wholly new, that it is presented to us in no more than the record stage and without the attempt to adjust its twigs upon a family tree, these conditions make it all the more valuable. Inasmuch as we shall engage upon the study of the nature and possibly the source of that element of speech within the Melanesian area which exhibits the appearance of kinship with other languages, we shall find our attitude of inquiry in a better poise when we are dealing with fresh material. The conclusions which we may derive from the newly acquired data will thus serve as standard for the critical examination of the conclusions at which earlier students have arrived in the study of other data. The extent of the Sissano material at present falls below the amount offered in the dictionaries mentioned in the foregoing paragraph. We are to examine but 120 vocables of Sissano speech; yet even that scanty figure is more than half as much again as that upon which Codrington erected the study of comparative Melanesian philology, falls but 34 items below the limit of Ray's material, and approximates three-quarters of the sum of Friederici's material. On this score, therefore, it is entitled to rank with the work of these authorities.

The geography of the Sissano communities establishes this speech as in a position of peculiar importance. It will be recalled that the great island of New Guinea is bisected politically by the meridian of 141° E. All that lies west of that line is a possession of the Netherlands. The eastern half is again partitioned by a mathematical boundary through untrodden waste of mountain and jungle. This boundary leaves the Netherlands line at the parallel of 5° S., and when the unknown land is explored will be drawn in a straight line to the corner formed by the intersection of 6° S. with 114° E.; from this corner it continues to the intersection of 8° S. with 147° E.; thence along the parallel of 8° into the sea south of the Bismarck Archipelago. South of this line is the British Possession of Papua; north of it lies

the German colony of Kaiser-Wilhelmsland.* On the north coast of the German colony the Sissano communities lie on the shore of a lagoon not more than 5 miles east of the intersection of 3° S. with 142° E. This array of geographical coordinates shows that Sissano is some 65 miles east of the Dutch-German boundary.

This remote westward position will be found particularly advantageous for the purposes of our study, for it considerably removes this language station from the possibility of mixed contamination from successive waves of migration from divers sources which we are forced to recognize in some of the eastern island areas where migration streams have converged. Yet in its westward position Sissano is far enough east to have escaped a more modern contamination, that of the raiding fleets of Malayan prahu. These adventurous sailors in a quite recent period have visited and despoiled the western coasts of New Guinea, both north and south, wherever they could find articles worthy of their theft, or humanity which they could capture in slavery. On the north coast we have the most abundant proof of the activity of these periodical raiders as far east as the great Geelvink Bay and the island of Jobi. East of Jobi Point, which marks the eastern extremity of Geelvink Bay, the coast becomes forbidding, landing-places are few, the forests which come down unbroken to the sea offer little to the advantage of the trader, and the human population is too scanty to attract the slaver to an unprofitable voyage. Sissano lies quite east of the common limit of modern Malay intercourse. At the same time it lies so far to the westward as to be close to the Indonesian region, with which we associate a certain very distinct element of the languages called Melanesian and Polynesian. If we are justified in tracing back this element to some manner of source in lands where the Malayan stock is now dominant, we shall be justified, until later discoveries may push a new station further westward, in regarding Sissano as the threshold of an exit of migration at some past time out of Indonesia.

We owe our knowledge of Sissano to two authorities. Friederici has given us certain brief yet valuable notes scattered through his "Melanesische Wanderstrasse"; Dr. Richard Neuhauss, in "Deutsch Neuguinea," includes a narrative of the communities as he found them, not great in extent but important as being the first comprehensive account of the place and people. In order that we may have for our linguistic studies of Sissano the proper geographical background and the essential ethnological surroundings, I shall present in this chapter the material *in extenso*, with ascription of full credit and equal responsibility to Dr. Neuhauss. His great work is intensive only upon the

*This statement rests upon the last delimitation of spheres of influence. As these pages pass through the press, the colony of Kaiser-Wilhelmsland is in military occupation of the Australian contingent subject to final determination in the treaty of European peace.

Huon Gulf region in the extreme southeast of the colony, where he had enjoyed the advantage of association with well-informed missionaries who had devoted a decade to the study and improvement of the savage population. Elsewhere in the colony his exploration was hasty and there was lack of intelligent assistance. But in Sissano, as we shall see, he passed some weeks and had the aid of a German who had lived in trading relations with the people for several years.

We are obliged at the outset to make a choice between Friederici and Neuhauss in the form of the name of the community and its speech. Neuhauss records it as Sissanu, Friederici as Síssano, yet Neuhauss notes (page 27) that surrounding peoples call it Eissano. We have ample warrant for assuming Friederici the more accomplished linguist; I have had occasion to check up his sense of vocal sound in several parts of the Pacific and admire the accuracy of his ear. We shall therefore follow his usage and employ as standard the form Sissano.*

The following are the note of Dr. Neuhauss on the place and people:

At evening of August 8, 1909, the *Siar* anchored off Sissano, 45 kilometers west of Eitapé, for the purpose of setting me down in the midst of the wilderness. The population, the Waropu and Sissano, up to the present have been brought into contact with civilization principally through the fact that the government has found it necessary to inflict a slight punishment. The nearest Catholic mission station, then but recently established, lies at Maléol, 18 kilometers west of Eitapé. The possibility of living for any length of time in this wild society and of doing successful work lay in the circumstance that for several years, the world forsaken, the copra trader Schulz had made himself at home and that he received me into his primitive hut. He came first to New Guinea as a sailor and had tried everywhere without making a success. It was not that he was lacking in industry; weeks and months on end he worked from morning to night, but in the end he was overcome by the irresistible impulse to spend his hard won money to the last penny on drink.

During my six weeks stay in Sissano Schulz showed himself a good friend of mine whom I must always recall with gratitude; and when I learned that in the beginning of 1910 he had suddenly passed from life I mourned him in my inmost heart.

Since there is always a heavy surf on that coast, landing is not without danger and scarcely does one ever come out of a boat without having made the acquaintance of a swamping wave. My luggage came through the experience in fair condition, and even the dozen large bottles of heavy export beer which the captain had given to Schulz were brought ashore intact. Their decapitation began at once and before midnight Schulz had drained the last bottle to its last drop. I found myself under the need of wondering what might be the outlook for my work. Yet Schulz reassured me when he rolled onto his bed and stammered "To-morrow you shall see a quite different Schulz." The prophecy was fulfilled, the thirst of weeks was appeased, and where alcohol had ruled in full force for less than twenty-four hours the rest of the time there was only weak tea and coffee. The water

*Certain few artifacts in the museum of the University of Pennsylvania, collected earlier than the visits of our authorities, are attributed to Zissano; this is added evidence in confirmation of the final vowel adopted as standard.

supply was particularly poor. While at the mission stations in Huon Gulf they drink exclusively rain-water which is caught on the corrugated-iron roofs, Schulz's hut was roofed with sago leaves, from which the rain-water pours down dark brown and quite undrinkable. For our drinking-water we had to depend on a small pool behind the house, an aquarium of mosquito larvæ and frogs and other small animal life and a bath for the dog. The green fluid could be used in only tea or coffee.

The landscape produces quite a different impression from that in the Huon Gulf region; a broad, flat coastal strip which is only occasionally interrupted by outcrop of rock and which is covered with scrub and coconut palms. Behind this small zone composed of beach-sand deposits lie swamps and lagoons filled with fish; it is not until one goes farther inland that the mountains begin to arise. On this coastal strip dwells a somewhat dense population which lives principally on sago and fish. Since the lagoons abound in more ducks than one may count the European gormandizes in meat. Our carte de jour read: morning, stewed wild duck with coffee; noon, stewed wild duck with tea; evening, stewed wild duck with coffee. About once a week a parrot or a savory pigeon added variety to the succession of meals. Schulz assigned three cartridges of bird shot every morning to his gun boy. If he did not bring home by noon at least six ducks he got a manual reminder, for one could feel sure that on the score of friendship he had left too much of his game in the villages.

Near the residence of my host lie eight Sissano towns (Nimas, Wakel, Reindschen, Meinerek, Amsohr, Meinah, Bruno, Meinraun) with a total of some 1,000 inhabitants. Schulz, who had acquired some of the language of the people, got along with them famously and gave them to understand that I was a good friend of his and that they must not harm a hair of my head. With great skill and dexterity he knew how to make them comprehend my object in making collections and taking photographs, and certainly I should never have obtained so much had not Schulz stood always faithfully at my side ready to give his assistance. Among the ethnographic objects there he brought to my attention a most remarkable piece. In scraping the pith out of the sago stem the blacks use adzes in which the sharp stone blade is replaced with blunt, round polished stones. All at once there appeared many tools of this sort which were mounted, not with a stone, but with a round piece of metal. This had the following explanation: In order to bring the hostile Sissano to reason the government set in operation one more of its punitive expeditions and shot up the beach towns with a few dozen small shells. But somebody neglected to charge the shells properly and they fell without exploding or doing any sort of damage to the soft sand. The Sissano were greatly delighted at the presentation of such fine pieces of metal and had no more pressing occupation than to dig them up and set them into their adzes in place of stones. Apparently there had been a short time earlier at least two dozen such shells in use. The attempt was made to buy them up secretly. Schulz had the last specimen.

This recalls another happening where the shells of a punitive expedition did really go off, but quite in another spot from that which was intended, namely, in the ground far from the hostile towns. Whereupon the natives held a thanksgiving festival because their fields had been so finely dug up and they themselves spared the painful toil of breaking up their hard soil.

Near Sissano is the Waropu Lagoon, where there was a sudden sinking of the earth's surface in the night of December 15–16, 1907.

In order more closely to examine the sunken district I boarded with Schulz one of the canoes without outriggers for the extremely uncomfortable trip across the Waropu Lagoon, which is of considerable extent and in which

the winds stir up a strong sea. In order to keep the canoe from capsizing and to lower the center of gravity as much as possible we had to sit immediately upon the bilges of the canoe, and there is always water there.

After a voyage of half an hour on the Sissano Lagoon one emerges from a forest of coconuts suddenly upon the sunken district where the dead and leafless palm stems are a melancholy spectacle. This border zone is of a width of 1 to 1½ kilometers. One has to wind in and out among the dead trunks with the utmost care, for the slightest bump would be sufficient to bring rotting stems crashing down. Soon we are in the open lagoon and steer directly for the sunken island where formerly 2,000 Waropu lived. Many houses have already fallen in ruin before the dashing waves, some have remained, especially a small spirit house into which we crept in order to loot its heaped-up treasures. In their superstition the Waropu let everything after the catastrophe lie untouched, so that we were able to carry away decorated skulls, objects of magic-working, the rare dancing masks worn at the circumcision festivals, and other such objects.

Then we continued to the other side of the lagoon to the Aróp towns. The Waropu formerly living between the Sissano and the Aróp had always been in fiercest enmity with their neighbors and had occupied much the same position as the Lae-Womba on the lower Markham River. It was clearly a judgment of God that the calamity of the earthquake fell upon the Waropu exclusively and that the sunken district ceased at the boundaries of the Sissano and the Aróp. It is clear that the small point of land on which Aróp stands is involved in a slow subsidence, so that the inhabitants in a little while must forsake the place.

During the catastrophe the Waropu were able to embark quickly upon their boats, so that only two children were drowned. Early next morning they came for succor to the Sissano, who showed no sign of sympathy, but set themselves in readiness to massacre their ancient foes, now defenseless. Had Schulz not intervened there would have been a cruel bath of blood. The Waropu then built new towns on the shore of their lagoon.

One day Schulz informed me that he must go to Eitapé in order to get new trade from the store of the New Guinea Company. As a matter of fact he had plenty of trade, but the quarter was near its end and thirst once more began to plague him. He swore by all that was high and holy that he would be back in five days. The voyage each way took up two days.

In Eitapé he was in the way of wholesale trade, for he bought a whole box at once containing 48 bottles of beer and went into camp beside it; if his credit ran to it, as this time it did, he would get a second box and his sojourn prolonged itself about two days. Eight days later Schulz had not returned, but one of his black boys came back to Sissano. When I asked him what was the matter with his master he said "Master Skuls did." I was in the highest degree alarmed, for the death of my host put me in an unpleasant position. Thank God, the case was not so bad, for I had not fully grasped the niceties of the Pidgin. The black boy sought to express with the word "did" no more than the fact that his master lay dead drunk. If Schulz had been as dead as a rat the black boy would have said "did finish." When his credit was exhausted they stowed Schulz and his trade aboard a small schooner which came into view off Sissano in the early morning. But it was evening before his legs recovered sufficient supporting power for Schulz to think of coming ashore. Now my host was once more the most industrious, the most sensible man, the best associate whom I could wish in the wilderness. When a year and a quarter later he went again to Eitapé he stayed "did finish." (Pages 61–66.)

In Sissano I saw a half-albino woman (skin color about 21–22), but she was so shy that I was unable to observe the color of her eyes and the hair, which she wore under a hat. (Page 104.)

A Sissano chief lost one after another all five of his sons in the everlasting feuds with the neighboring Waropu. (Page 132.)

When in 1909 I sojourned with the Sissano, as yet uninfluenced by civilization in their remoteness near the Dutch border, I had the fortune to be an eye-witness of at least some of the circumstances of the circumcision feast. The feast-magic had already lasted for five months; that is to say, the men in particular had given up work, and the women, who commonly busied themselves, among other things, with pottery making, had declared a holiday. The case was particularly a hardship for my friend Schulz, for during that time he could not get a kilo of copra; the townsfolk always assured him that all would be well at the end of the feast, which they must await in the circumstances. This end was clearly yet remote, for the boys had only just been circumcised and after the actual operation months must elapse before they return to their towns.

The circumcision candidates, fourteen boys and young lads between the ages of some six to twenty years, lived part of the time on a hill across the lagoon at a considerable distance from the settlements, and part of the time in the neighborhood of the towns near the beach, where an inclosure had been built for them in the thick bush. On the side toward the sea this inclosure was hedged with palm leaves at the edge of the bush, so that the youngsters, who were under the guardianship of two fully grown men, were screened from the glances of the women passing along the beach. On the place thus inclosed were several shabby huts, mere roof shelters from the rain. The circumcision candidates were daubed from head to foot with yellow and went completely naked. The operation had been performed on them only a few days earlier and the wounds were not yet healed; it amounted to no more than a comparatively insignificant incision in the foreskin. Every evening the blowing of the great *balum* flutes resounded, whose purpose was to give warning to the women that a dangerous spirit was abroad. After the circumcision feast the lad is considered adult and takes part in the councils of the men. (Page 157.)

In the towns of Malŏl, Aróp, and Sēr, between Berlinhafen and the Dutch border, there is a custom that every unmarried villager must make his condition visible from a distance by wearing the bachelor belt of rattan. In Sissano also some of the unmarried men wear the bachelor belt. (Page 159.)

In Sissano the corpses of men and women are buried under the women houses, never under the men houses. At the head and foot of the body they stick a post in the earth and keep a small fire burning over the grave for about a month. A short time earlier an old man had died there whose house had already fallen down and who had passed the last years of his life in the neighboring house of some of his kin. In this case they buried him between the yet standing pillars of his old house and spread over the grave a roof shelter. This fashion of burial is not usual in Sissano. A boy who died in Sissano at the beginning of 1909 was buried under the house in which he had lived. But they had cut the head off and buried it under another house. When some months later I dug it up I found the bones in the vicinity of the foramen magnum broken away, which showed that the brain had been taken out. (Page 163.)

The Sissano preserve in their spirit houses a row of skulls, apparently those of chiefs and other prominent men. Although they hold these skulls in high honor, they show not the slightest respect for others. As soon as they saw that I was paying a good price for skulls they dug up the graves under their houses in every direction in order to sell the mortal remains of

their relatives. The women had to do this with long staves, but the men took the purchase price. The skulls heaped up in the spirit houses were not for sale. Among the exhumed specimens were found the skulls of men as well as women, so that it is not here, as in Berlinhafen, the privilege of the men to be preserved in the spirit houses. (Page 165.)

The long strands of hair which the old Sissano women wear hanging down over the breast are a rare exception to the usual treatment of the hair. (Page 190.)

In order to develop the wounds inflicted by burning so that they may become thick weals the people in Sissano, apparently in other places also, smear the fresh wounds with a mixture of lime and the leaf juices of a plant. This composition, which has a yellow color, is extraordinarily irritant. The smarting which the women must undergo while decorating their bodies with these moxa scars must be something frightful. (Page 192.)

Perforation of the alæ and septum of the nose are practised by the Sissano. (Page 194.)

In the neighborhood of Huon Gulf and in Sissano black teeth are regarded as particularly fine. The coloring is done with black earth. The black pigment is wrapped in a small packet, this is laid upon the teeth, and the result is attained. In Sissano I collected a small container which had been made as a holder for the black tooth pigment. (Page 195.)

In Sissano the penis bark wrapping is concealed beneath a sort of fiber petticoat or a piece of bast cloth.* (Page 197.)

They build their houses on exceptionally high posts when the air is not wholesome and when they must always be on guard against attack. A platform 3 or 4 meters high is not without its difficulties to the attacker who would seek to clamber up. The primordial form of the Papuan house appears to be of the round type. At the present time this has practically vanished from the coastal regions of Kaiser-Wilhelmsland, though I have seen some in Sissano. The roof is supported by a center pole. But this style has become unusual among the Sissano. (Page 215.)

A uniform house type is not found. This is noteworthy in the men houses of Sissano, where we have round houses, oval houses with a platform under the dwelling room, and finally houses without platform. The women houses exhibit like variety; we find one with a veranda open above, a porch roof without veranda, and the more common type with low-roofed verandas. For decoration of the men houses long strings of the lower jaws of pigs are hung between the posts. (Page 218.)

Among the Sissano the wooden sword is the weapon of women, for there they take part in combat; in peace times they employ the sword in breaking up the soil. (Page 305.)

The protection of the body is particularly well cared for by the Sissano. The warrior wears for the protection of his belly a cuirass of bark richly carved (*opón*). This is rolled up into a spiral and therefore adjusts itself closely to the belly. Before the breast depends a beautiful small shield decorated with swine teeth and red and black wild seeds. Four particularly fine breast shields of this kind are in the ethnographic collection of the old castle in Heidenheim, Württemberg. In addition there occurs here, though quite rarely, artistically woven body armor, of which I collected one specimen for the Berlin collection; they are manufactured in the district near

*With this statement it is necessary to compare **vopun** in the vocabulary. Apparently the Sissano employ both customs, which elsewhere in the region are somewhat sharply distinctive of racial difference.

the Dutch boundary and come to Sissano in barter. Finally, the Sissano warriors employ large wooden shields (*aieripin*) of the height of a meter and a half and covering the whole of the man. These are decorated with artistic carving and occur in the towns in extraordinary profusion. On this shield the wounded warrior is borne away from the thick of the conflict by the women. During an attack the warrior does not protect himself with the shield, for its great weight would interfere with his use of the bow. It plays a more important part in the defense of the town. There are also shields of cassowary hide, but these are used only in dancing. (Page 306.)

My friend Schulz once had the opportunity on the veranda of his house to be a spectator of a battle between Sissano and Waropu bitterly contested in his immediate vicinity. The warriors, protected with body armor and breast shield, stick a war amulet into the arm band and hang another on the decorated breast shield. Then with frightful yells the enemies clash. The women grasp their wooden swords and the great shields and as soon as a man is put out of action by an arrow he is carried from the field on the shield. The women do not directly participate in the fighting and employ their wooden swords only to protect themselves when an enemy comes too near them. They pick up the arrows after they have been shot, keep up the supply of ammunition from the arrow reserve in the houses, and when a man is wounded cut the arrow out of the flesh with bamboo knives. In all these combats the yelling is always the most frightful thing, and as soon as a pair of wounds have been inflicted or one of the fighters falls the affair comes to an end. The casualties would be far more severe if it were not that the fighters leap about with the agility of apes and offer no certain target. I took a cinematographic picture of one of these leaping archers and had great difficulty in keeping the instrument trained on the man hopping like an india-rubber ball. (Page 311.)

In but one of the eight Sissano towns is pottery practised. The method is to take sausage-shaped rolls of clay, set them in layers, and smooth the outside and inside with the hand. The Sissano women roll the clay sausages on a hard surface until they become quite smooth. (Page 324.)

In the west of our colony, among the Sissano, flourishes an art of wood work which deals with large wooden shields, ladles, and taro stampers. While the handle of the stamper exhibits a male figure with extraordinarily large organs of generation, a specimen was collected in which its place was taken by a kangaroo. Travelers who follow me in Sissano will not be likely to find any good old pieces of this sort, for my Sissano friends fairly exhausted the supply at the rate of a kitchen knife apiece. (Page 33.)

The Sissano celebrate a clothing feast at which the girls of six to eight years receive from the givers of their names colored girdles of bark and skirts of bast. The father of the family invites all the givers of names. Since the child has several names it has therefore several name-givers (*kakak*). The latter adorn the girl with girdle and skirt, paint her in gay colors, and to the accompaniment of singing and dancing bring her before her parents, who have not neglected to bake a huge cake of coconut and sago, 5 centimeters thick, 3 to 4 meters broad, and 7 to 8 meters long. The women clothe themselves as men, put on the belly armor and breast shields, and blacken their faces. Suddenly they appear in this disguise and armed with lemons from the bush, with these they pelt the men, who reply in kind. It lasts but a few minutes in all, then they withdraw and lay aside the disguise. Meanwhile the decorated girls are brought in by the givers of the names, and on the father's side begins the distribution of the cake and other articles of food. Every name-giver gets from four to five backloads of eatables. In like

manner all who have helped in the ceremony must be rewarded. Such a feast naturally brings its giver to the edge of domestic ruin, but that never turns Papuan hair gray. So long as he has something on hand he lives happily. (Page 382.)

In the same fashion we shall assemble from Friederici the stray mention of this people which is scattered through his "Deutsch-Neuguinea."

In New Guinea I observed remarkably many instances of the Jewish cast of features in the Arop-Sissano region. Among the Anuda folk are several quite extraordinarily corpulent persons, such as I have encountered in the same degree only in the atoll Uluthi (Mogemog) of the western Carolines and in the case of one man among the Melanesian Sissano. (Page 28*d*.)

I have been able to examine but two new-born children in the course of my travels, one in Kung, northern New Hanover, one in Sissano. A small child of Javanese parents in Hollandia, Humboldt Bay, was already two days old when I saw it. In none of these children was the blue birth-mark, the Mongol spot, present; in skin pigmentation all three were noticeably lighter than their mothers. (Page 32*b*.)

While the glowing end of a coconut shell (the end where the eyes are) is employed for the burning of small scar ornament, the people in the present time use red-hot bottle necks for the production of larger annular scars. Similar scar ornament occurs in north New Guinea at Garget and in the Arop-Sissano region. (Page 36*b*.)

I myself have traveled through large areas of New Guinea whose inhabitants were uncircumcised, for instance from Humboldt Bay over Wutung, Wánimo and vicinity, Leitere to Sēr. Upon the Sissano, lying still farther east, a trader has given me vague statements as to circumcision, which unfortunately I have not established as fact. It is quite possible that such is the case; but, with every kind wish, the information derived from that trader, by reason of something lacking in his personality, is not sufficiently reliable to stand as fact except when corroborated (see page 13). (Page 45*c*.)

I have often observed the picking up of objects with the foot. This is especially frequent in the Arop-Sissano region. (Page 57*a*.)

I have found in Sissano the use of the Polynesian swimming-board for riding the breakers, surf-riding. (Page 59*b*).

On the coast of northern New Guinea the people of Wánimo, Leitere, Sēr, Sissano, and Arop have assured me that the tear-greeting was unknown to them. (Page 65*c*.)

In the regions poorly blessed with the coconut the mothers chew up boluses of taro or sago for their nursing children, but quite clearly with anything but good results. A severe malady of the mucosa, particularly about the anus and the genitalia, follows this sago feeding, as I have in many cases observed in children of the Arop-Sissano region. The lately deceased trader Schulz, whose testimony on this point I regard as competent, since he had had several Papuan women in the domestic side of his life, told me that this illness regularly set in as a sort of inevitable children's sickness when the child was weaned and put upon a diet of this chewed sago. The illness is very painful. Not a few succumb to it. I observed in particular a little girl of two or three years who lay shrieking with the pain on her father's knee and rolling onto her back and then onto her belly. The genitalia and anus were inflamed and covered with matter and scabs. Any one who has ever had this disease is immune ever after. It is clearly a sickness of the weaning. (Page 91*d*.) [This suggests frambœsia.—W. C.]

The Sissano practise a fashion of disposing of their dead quite similar to that in vogue in the Motu district, as the trader Schulz has told me. The late Schulz was of no particular intelligence, but a man who thought according to his station and I hold him in pleasant regard. It happened to him to spy through the chinks of a hut how the relatives squatted about a corpse already far gone in corruption and dug out with their fingers meat or skin from the rotting body and sucked them as tidbits. Schulz told me that they were very careful to keep this secret and refused to speak about it. (Page 165*d*.)

CHAPTER III.

SISSANO WORDS.

The brief vocabulary which we are to consider in the present chapter, and which is to serve as the foundation for our wider consideration of the philological problems of this region, is derived from two sources. Neuhauss supplies 88 entries, Friederici 33; the two authorities have 15 words in common, and in each of these instances I have given preference to the form recorded by Friederici. I have likewise specified the source only where variety exists and in that case have employed the self-explanatory initials N and F. In general the forms of Friederici's provenience may be identified through the employment of accents and other diacritical marks. His material is collated from his comparative tables based upon the language of the Barriai of western New Pomerania. Neuhauss (page 129) provides his list in loose order, based upon his researches into the parts of the body, weapons, utensils —ethnica in general. He makes no note as to the phonetic system followed. It is presumable that he employs the Roman letters with the value which they have in German; yet I have not attempted to coordinate his record with that of Friederici. The latter employs with great skill the phonetic system of Carl Meinhof, which is excellent for the record of sounds up to but exclusive of the tonal qualification, and, so long as we choose to cling to the Roman alphabet rather than some form of visible speech, this is better than most systems.

1. **ai** wood.
2. (aié N : ai F).
3. **aieripin** wooden shield.
4. **ain** to eat.
5. **aisebôt** taro pestle.
6. **ajaní** head band decorated with seeds.
7. **andaman** brother-in-law.
8. **ănô** family house.
9. **anséh** comb.
10. **ar** pandanus.
11. **ăráu** sun.
12. **at** stone.
13. **atú** to stay, remain.
14. **aún** dog.
15. **awem** hand.
16. **băgére** slit drum.
17. (**băl**) **man–băl** balus-pigeon (Ptilopus sp.).

17*a*. **balum** flute.

18. **baré** forest.

18*a*. **bêi** flying fox.

19. **belúk** thigh.
20. **blei** forest.
21. (bogir N : băgére F).
22. (bol N : pul F).
23. **bondenên** one.
24. **bor** boat without outrigger.
25. **brun** large, many.
26. **bul** moon.
27. **daman** father.
28. **dewun** elbow.
29. **dirp** small fish net.
30. **dondôn** small, few.
31. **dopún** egg.
32. **ega** thou.
33. (ehl N : el F).
34. **el** stone axe.
35. **eliák** teeth.
36. **ewêrk** finger.
37. (galuk N : kālúk F).
38. (**gel**) *cf.* **tur gel.**
39. **gerke** I.
40. **ildín** two.
41. **japeók** toe.
42. **jin** pandanus fiber.
43. **kabon** wooden handle.
    sel kabon sago pounder.
44. **kagrepin** shoulder.

44*a*. **kakak** giver of name.

45. **kālúk** wooden pillow.
46. **karabún** ladle.
47. (kusch N : vus F).
48. **labok** belly.
49. **labón** friend.
50. (lapi N : lepí F).
51. **lele** bark beater.
52. **lepí** sago.
53. **lewén** buttocks.

54. **lontamin** sister.
55. **mal** perineal band.
56. **man** bird.
    a. **man bălˇ** balus pigeon.
    b. **man dopún** bird's egg.
57. **mangganton** reinforcing strip on bow and stern posts of canoe.
58. **mangobu** stone awl.
59. **masón** cassowary-feather headdress.
60. **moti** small hand drum.
61. **natu** child.
62. **nau** salt water.
63. **nĕu** coconut.
64. **nibúk** head.
65. **nirepok** ear.
66. (niu N : néu F).
67. (no N : ănó F).
68. (oh N : ol F).
69. **ol** pot.
70. **olĕn** sword.
71. **omuterok** fringed neck ornament.
72. **opón** belly armor.
73. **pipíp** butterfly.
74. **po** areca nut.
75. **poon** island.
76. **pul** pig.
77. **rāĭn** drinking-water.
78. **ranran** necklace of black fruits.
79. (rau N: ărāu F).
80. **rebín** testes, spirit.
81. (rein N : rāĭn F).
82. **remir** hair
83. (**ripin**) *cf*. **aieripin.**
84. **rives** stirring ladle.
85. **saboche** tobacco.
86. (**sebôt**) *cf*. **aisebôt.**
87. **seéhl** basket.
88. **sel** stone.
    sel kabon sago pounder.
89. **siín** pudenda muliebria.
90. **solpenbal** *cf*. **tur solpenbal.**
91. **suk** nose.
92. **talél** shell bell.
93. **tamben** *cf*. **tur tamben.**
94. **tamĕng** woman.
95. (tamín N : tamĕng F).
96. **tapel** wooden dish.
97. **tapo** crocodile.
98. **tawelukúg** eye.
99. **tenan** mother.
100. **tín** penis.
101. **tō** sugar-cane.
102. **tur** arrow.
    tur gel arrow with broad smooth tip of bamboo.
    tur solpenbal fish arrow with three points.
    tur tamben arrow with barbs.
103. (turén N : turíĕn F).
104. **turíĕn** bow.
105. **ull** bread fruit.
106. **verĕn** Casuarina.
107. **viti** hand drum.
108. **vŏpún** penis calabash.
109. **vŭm** plantation.
110. **vus** rain.
111. **wanan** brother.
112. **weliak** tongue.
113. **wepernúk** knee.
114. **wepok** fist.
115. **wesch** paddle.
116. **wok** boat with outrigger.
117. **worú** man.
118. (wul N : bul F).
119. **wun** married person.
    wun–damin wife.
    wun–woru husband.
120. **yaim** spear.

There is a wide interval between the first list of words collected by the explorer and the dictionary of any speech. At the beginning there is a series of possibilities of error which by now have become familiar. At greater length and in more general terms than here seems necessary I have discussed these pitfalls of the vocabulist in my recent work "The Subanu," at page 45.

A common type of such error lies in the fact that the inquirer into the unknown speech knows quite definitely what he asks. The party of the second part understands it to apply to something quite different, for the aim of the inquisitive forefinger is not always true. I suspect error of this source in two entries of this collection of words which Neuhauss has provided—

eliák teeth **weliak** tongue.

The vocables here proposed approximate as closely as do the physical entities assumed to be denominated, the sole difference subsisting in an initial modifier. As to the value of this initial we are not informed; it may be the German *w*, therefore a light labial intermediate in the

f–v group; it may be the semivowel represented by the letter in English. I have been unable to trace either form in our scanty linguistic material derived from this region; therefore there exists no means by which the record may be made to yield the correction required. But by reconstruction of the situation in which the record was made it is not difficult to see what has happened. Dr. Neuhauss has employed his index finger; that ready but fractional handmaid of scientific inquiry at its beginning has pointed at the particular part concerning which his inquiry is made. In general one avoids the actual touch of the moist parts of humanity; to even the most painstaking of linguists it might in some sort seem hardihood to intrust a forefinger within too close reach of that part of the cannibal wherewith he practises his anthropophagy; it is not given to all men to be Van Ambergs in lions' mouths. Accordingly, there has been reason for misapprehension on the part of the savage, even though he was ready to instruct the stranger. The forefinger was addressed to the major orifice of his face. He has interpreted it as an inquiry as to his mouth in general, or in particular as to his lips or his teeth or his tongue. Probably *eliak-weliak*, whichever may be the proper locution, denominates some one of these parts, but we have no means wherewith to determine which is intended; since we find in the available material no words for mouth and lips we are without data for determination by exclusion. We retain the two forms in their vocabulary positions, but note this doubt as to form and sense and leave the matter for the determination of the next scholar who may visit this remote lagoon community.

Dr. Neuhauss does not pretend to be a philologist. His interest and his activity have been engaged profitably with other concerns of life and he has not had the time to elaborate this small collection of the words of a most obscure language. Our critical examination of his material is not in any sense a reflection upon him as a collector; we are profoundly grateful that in the midst of his other occupation with this people he has found the inclination and has been at the pains to provide us with this equipment for the study of their speech. It is solely to enhance the value of his work that we note the possibility of error which surrounded him—perturbation factors which without particular training and long familarity he could not suspect and therefore could not seek to correct in his field observations.

In many of the languages of the Pacific we find evidence that the intellectuality of the speakers evades in several groups of noumena the sense absolute and considers it only in certain relations. This is particularly the case with the names of parts of the body. To the searching inquisition of the questioning forefinger the reply is not head, arm, foot, as concepts absolute, but always my head, my arm, my foot, when the finger searches out the person interrogated, or, when the questioner indicates his own members, thy head, thy

arm, thy foot. Each of these relations is expressed by compaction with the word of a post-positive modifier, which may be more or less denuded in form after the rule which obtains in the languages of agglutination. Postponing for the present the argument of this theme, more particularly its value in the determination of wider relations, we note that in the Sissano we have no difficulty in recognizing the modifiers of this function as **–k** and **–n**, indicative of possession in the first and third persons respectively. By interpolation from other languages of this type we may assume that **–m** is indicative of possession in the second person; this material affords but 3 vocables with final **m** (**awem** hand, **vum** plantation, **yaim** spear), and on this scanty showing we hesitate to establish this possessive modifier, except that it may be present in **awem** as thy hand.

Of the 15 vocables with final **k** there appear but 2 in which that letter is integral to the stem, **kaluk wok.** Those in which it is probably the possessive mark are **beluk, eliak, ewerk, japeok, labok, nibuk, nirepok, omuterok, suk, tawelukug, weliak, wepernuk, wepok.** I have included in this list one instance of a final **g**, namely **tawelukug,** as very likely associable. It will be seen that excision of the **k** terminal leaves an open stem, except in the case of **ewerk.**

Of 35 vocables with final **n** we find the ratio inverted, for there are but 12 in which it is at all possible to regard that letter as a possessive mark. These are **dewun, kagrepin, labon, lewen, mason, olen, opon, rebin, siin, tin, turien, vopun.** These also yield absolute stems ending in a vowel.

This examination of possessive marks is essential to the comprehension of the case in the matter of two interesting entries in Dr. Neuhauss's vocabulary:

labok belly **labon** friend.

In the former of this pair we now find no difficulty in seeing the possessive rather than the absolute; the philological index finger has come to point somewhere below the bust measure of the bare addressee; he replies "my belly," which it is. We can reconstruct the scene out of which comes the sense of **labon.** Again the forefinger is brought into play; the collector of the speech points to a bystander and inquires in the Beach-la-Mar, which has not yet largely penetrated so far into the wilds, "that fellow friend belonga you?" To the same communicative addressee the words are naught, the finger everything. According to his geometry a straight line may be produced indefinitely in any direction; he produces the index line and discovers it to impinge upon his friend and fellow citizen at or near the umbilicus. He replies **labon** his belly; the recorder enters it in his note book as "friend," and once more we are reminded of the Tower of Babel. Verily the pitfalls in the newly acquired vocabulary are many. In this instance we

suspect that the information was acquired when "Master Skuls did," for that trader with the noble thirst, a Viking of the torrid zone, was credited with a certain familarity with Sissano speech.

Before engaging with the inner content of these vocables of this new tongue we shall find it profitable to give some consideration to its form and phonetics. The alphabet appears to be as set forth in the following table:

		a		vowels
		e o		vowels
		i u		vowels
	y	r, l	(w)	semivowels
	ng	n	m	nasals
	(h)			aspiration
sonant	–	–	–}	sibilant
surd	sh	s	–}	sibilant
sonant	–	–	v(w)}	spirant
surd	kh	–	(f)v}	spirant
sonant	g	d	b}	mute
surd	k	t	p}	mute
	palatal series.	lingual series.	labial series.	

Because we derive our material through a German source, yet without definite statement of the phonetic system employed by Neuhauss, it has seemed advisable to employ marks of parenthesis to indicate that there is uncertainty as to the spirant labials and the semivowel proximate to the labial tract. It is probable that we have **v** and **f** of the English value and that the semivowel **w** is missing.

We see at once that we have to deal with a language of far richer phonetic development than any pertaining to the Polynesian family. It is comparable with many of the languages classed as Melanesian.

It is markedly of the closed type. Whereas no Polynesian speech tolerates a word or syllable ending in a consonant, the Sissano employs the final consonant with the utmost freedom. To what extent the syllables in words of more than one syllable are closed we may not determine, for until we have a richer vocabulary and a wider acquaintance with the usages of the language we are not justified in attempting any study of the syllabification, except in such words as show the process of duplication. Dealing with the words of this list as units for consideration, we find but 27 open words. I have already pointed out in the consideration of the possessive mark that its removal brings into view several more open stems. These are indicated in the following list of open words by the use of italics. In the tables of this series reference to the words is made through the serial number prefixed to each in the word list. The open stems are grouped by the final vowel.

a 32, 35, *112*
e 2, 16, 18, 39, 51, 85, *15*, *36*, *53*, *70*, *104*
i 1, 6, 20, 50, 52, 60, 107, *44*, *80*, *89*, *100*
o 8, 67, 74, 97, 101, *41*, *48*, *65*, *71*, *114*, *49*, *59*
u 11, 13, 58, 61, 63, 66, 79, 117, *19*, *64*, *91*, *98*, *113*, *28*, *108*

In like manner we order the closed vocables by the final consonant, in this case the italic figures represent the post-positive possessive marks which are not included in the reckoning.

ng 94
sh 47, 115
h 9, 68
g *98*
k 17, *19*, *35*, *36*, 37, *41*, 44*a*, 45, *48*, *64*, *65*, *71*, *91*, *112*, *113*, *114*, 116
r 10, 21, 24, 82, 102
l 22, 26, 33, 34, 38, 55, 69, 76, 87, 88, 90, 92, 96, 105, 118
n 3, 4, 7, 14, 23, 25, 27, *28*, 30, 31, 40, 42, 43, *44*, 46, *49*, *53*, 54, 56, 57, *59*, *70*, 72, 75, 77, 78, *80*, 81, 83, *89*, 93, 95, 99
s 84, 110
t 5, 12, 86
m *15*, 109, 120
p 29, 73

We may sum these records in two directions as showing the relative frequency of the different final consonants:

Palatals 22	Linguals 58	Labials 5		
Nasals 37	Sibilants 4	Spirants 0	Mutes 22	

As is the habit of figures, these probably speak for themselves, but their language is not yet fully comprehensible. We observe that the linguals and the nasals yield the greatest number of word-endings; where these two lines of the count intersect we find the nasolingual **n** affording the greatest number of instances of a final consonant.

We shall extend this arithmetical treatment to cover the occurrence of all alphabetic elements which this material presents for our view.

a 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 27, 32, 35, 37, 41, 43, 44, 45, 46, 48, 49, 50, 54, 55, 56, 57, 58, 59, 61, 62, 77, 78, 79, 85, 90, 92, 93, 94, 95, 96, 97, 98, 99, 111, 112, 120 = **54**
e 2, 3, 5, 9, 15, 16, 18, 19, 20, 28, 32, 33, 34, 35, 36, 38, 39, 41, 44, 51, 52, 53, 63, 65, 70, 71, 80, 81, 82, 85, 86, 87, 88, 90, 92, 93, 94, 98, 99, 103, 104, 106, 112, 113, 114, 115 = **46**
i 1, 2, 3, 4, 5, 6, 20, 21, 29, 35, 40, 42, 44, 50, 52, 54, 60, 64, 65, 66, 73, 77, 80, 81, 82, 83, 84, 89, 95, 100, 104, 107, 112, 120 = **34**
o 5, 8, 21, 22, 23, 24, 30, 31, 41, 43, 48, 49, 54, 57, 58, 59, 60, 65, 67, 68, 69, 70, 71, 72, 74, 75, 85, 86, 90, 97, 101, 108, 114, 116, 117 = **35**
u 11, 13, 14, 19, 25, 26, 28, 31, 37, 45, 46, 47, 58, 61, 62, 63, 64, 66, 71, 76, 79, 91, 98, 102, 103, 104, 105, 108, 109, 110, 111, 113, 117, 118, 119 = **35**
y 120, (j 6, 41, 42) = **4**
ng 57, 58, 94 = **3**
h 9, 33, 68, 87 = **4**
sh 47, 115 = **2**
kh 85 = **1**
g 16, 21, 32, 37, 38, 39, 44, 57, 98 = **9**
k 19, 35, 36, 37, 39, 41, 43, 44, 45, 46, 47, 48, 64, 65, 71, 91, 98, 112, 113, 114, 116 = **21**
l 17, 19, 20, 22, 26, 33, 34, 35, 37, 38, 40, 45, 48, 49, 50, 51, 52, 53, 54, 55, 69, 70, 76, 87, 88, 90, 92, 96, 98, 105, 112, 118, = **32**
r 10, 11, 16, 18, 21, 24, 25, 29, 36, 39, 44, 46, 65, 71, 77, 78, 79, 80, 81, 82, 83, 84, 102, 103, 106, 113, 117 = **27**
n 3, 4, 6, 7, 8, 9, 14, 23, 25, 27, 28, 30, 31, 40, 42, 43, 44, 46, 49, 53, 54, 56, 57, 59, 61, 62, 63, 64, 65, 66, 67, 70, 72, 75, 77, 78, 80, 81, 83, 89, 90, 93, 95, 99, 100, 103, 104, 106, 108, 113, 119 = **51**
s 5, 9, 59, 84, 85, 86, 87, 88, 90, 91, 110 = **11**
d 7, 23, 27, 28, 29, 30, 31, 40 = **8**
t 5, 12, 13, 54, 57, 60, 61, 71, 86, 92, 93, 94, 95, 96, 97 98, 99, 100, 101, 102, 103, 104, 107 = **23**
m 7, 15, 27, 54, 55, 56, 57, 58, 59, 60, 71, 82, 93, 94, 95, 109, 120 = **17**
v(w) 15, 28, 36, 53, 98, 111, 112, 113, 114, 115, 116, 117, 118, 119 = **14**
f(v) 84, 106, 107, 108, 109, 110 = **6**
b 5, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 43, 46, 48, 49, 58, 64, 80, 85, 86, 90, 93 = **23**
p 3, 29, 31, 41, 44, 50, 52, 65, 72, 73, 74, 75, 76, 83, 90, 96, 97, 108, 113, 114 = **20**

We shall next proceed to order these sums upon the common table of the alphabet, together with the percentage derived in each case. I have already made a similar computation for the Samoan, as the representative of a highly developed language of the South Sea. The comparison of these totals and percentages derived therefrom will prove interesting as exhibiting the variety which inheres in the two types of language.

	Vowels.	Consonants.	Sum.	Per cent.	
				Vowels.	Consonants.
Sissano.....	204	276	480	42.4	56.6
Samoan....	2,540	1,722	4,262	59.6	40.4

We see at once how radically the two languages vary; this speech of rudest New Guinea is consonantal in approximately the same proportion as the soft tongue of Nuclear Polynesia is vocalic. Such a difference indicates clearly a great diversity in phonetic type. We shall now examine the items one by one, recording the sum and the percentage and adding in italic figures the corresponding Samoan percentage.

semivowels	y	4	1		r 27 l 32	59	12.3	*11*				63	13	*11*
nasals	ng	3	5	*2.1*	n	51	10.6	*3*	m	17	3.5 *3.5*	71	14.1	*8.8*
aspiration	h	4	1											
sibilants	sh	2	0		s	11	2.3	*1*				13	2.3	*1*
spirants	kh	1	0						v 14 f 6	20	4.1 *3.9*	21	4.3	*3.9*
mutes	g 9 k 21	30	6	*8.9*	d 8 t 23	31	6.5	*5.2*	b 23 p 20	43	8.9 *1.4*	104	21.7	*16.2*
		44	9	*11*		152	30.7	*20.4*		80	16.6 *8.9*			
	palatal series.				lingual series.				labial series.					

Before tracing the distinctive curves of the two languages thus brought into comparison, it has been deemed advisable to prepare another set of percentages: those of each vowel on the base of the sum of the vowels, those of each group of consonants on the base of the total consonant equipment. This is done in order to bring out in sharper profile the graphic record of the speech characters. In the latter ordering I find it advisable to deal with the consonants in one order by their series postulated upon that organ of speech from which they come and in the other by their quality running across the three speech-organ series.

	a	e	i	o	u	Palatals.	Linguals.	Labials.	Semivowels.	Nasals.	Sibilants.	Spirants.	Mutes.
Sissano.	26.4	22.5	16.6	16.6	16.6	16	55	28.9	22.8	25.8	5	7.6	37.7
Samoan.	39.3	19.1	15	17.7	9.1	27.6	50.4	21.9	26.9	21.6	2.6	9.8	40.2

From these percentages we derive the three curves which represent the phonetic character of the two languages brought under comparison. In each of the three speech profiles it is easy to observe how different the languages are. In order to direct those who have not had to deal with this graphic presentation we point out the principal lines of divergence.

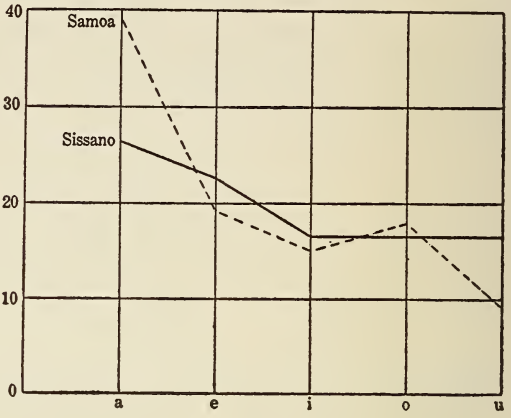

Fig. 1.—Vowel profile.

In the vowel profile(Fig. 1) we note but one line in which the two are at all comparable—the line which connects the **e** with the **i**. In the Sissano we remark the flatness of the line **i–o–u**, which in the Samoan is marked by a secondary peak at **o** and a marked drop at **u**.

The first profile of the consonants (Fig. 2), that based upon the frequency of employment of the three consonant-forming organs,

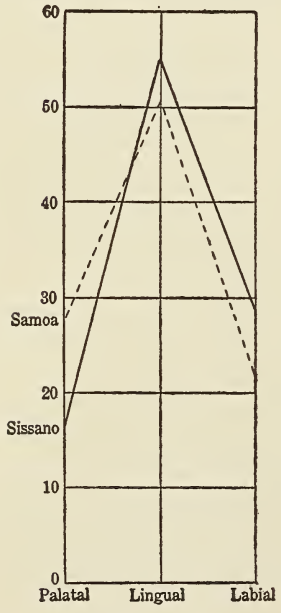

Fig. 2.

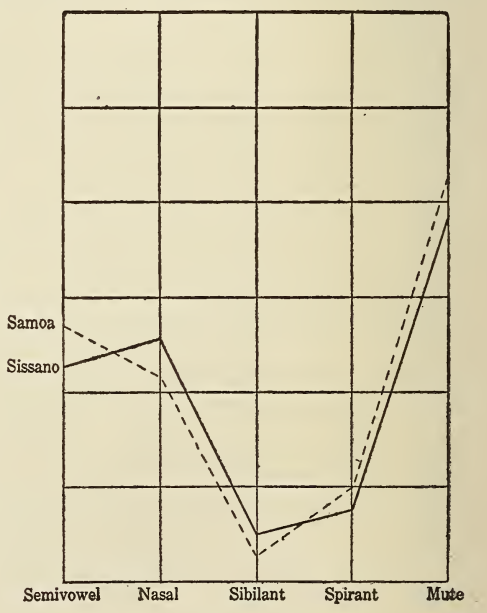

Fig. 3.

exhibits a remarkable peculiarity of difference. The two languages represent opposite phases, for if either profile were turned over it would be found closely to coincide with the other. The frequency of the palatal in the proto-Samoan and of the labial in Sissano stand at the same level; the frequency of the Sissano palatal is but little less than that of the labial in Samoan.

The profile drawn upon the several classes of consonants (Fig. 3) exhibits two peaks with an intermediate depression. The depression is due to the fact that the sibilant and the spirant are produced in the two languages by but one organ apiece, for the occurrence in two instances in Sissano of the palatal sibilant **sh** and in one instance of the palatal spirant **kh** may be neglected. The final peak, that representing the mutes, is effectively the same for the two languages. The former peak shows strong diversity, the Samoan peaks on the semivowel, the Sissano on the nasal. We are particularly fortunate in this comparison as to the sibilants, for the Samoan is almost the only language in the Polynesian family in which the **s** has not undergone mutation to the **h** proximate to the linguals.

The aspiration appears in this Sissano material in these words:

anseh ehl oh seehl

The key to the explanation is found in **ehl** of the Neuhauss record, for which Friederici gives the form **el.** From this we infer that Neuhauss has employed the character **h** not as aspiration but rather to indicate the quality of the preceding vowel. In the case of **oh** of the Neuhauss record Friederici presents the form **ol**; this is far removed from the ordinary type of mutation; therefore we may regard the **h** of **oh** as a scrivener's error. Thus we find ourselves justified in removing the aspiration from the alphabetic table of the Sissano, and for this reason I have included it within the marks of parenthesis.

I observe but three instances in which double consonants are unmistakably established, **blei, brun, dirp**; possibly we may add thereto **ewerk.** It will be observed with a view to future study that each of the four instances involves the lingual nasal; twice it follows a mute, twice it precedes a mute. We note the fact, but in the paucity of material we may not venture upon an explanation thereof. There are many instances of the concurrence of consonants, but for the present these are susceptible of the explanation of syllable difference.

Duplication, that strong character of the languages of Polynesia, is found in this Sissano vocabulary only in the cases of **dondon, lele, ranran.** The type is that of conduplication according to my system of differentiating this speech mechanism.*

*29 American Journal of Philology, 37.

CHAPTER IV.

MELANESIAN ANNOTATIONS ON THE VOCABULARY.

In the foregoing chapter we have assembled a word-list of this ultimate western folk of the German province of Kaiser-Wilhelmsland. It is very brief. From it we can obtain no impression of the manner in which word follows word for the expression of the intellectual idea. It is so scanty that it will little forward the next comer to that remote lagoon. Yet it is not without its value. The objects which have passed under linguistic review are for the greater part physical entities; they are among the first vocables which the inquirer into new speech will seek to ascertain, for they are the parts of the body as to which the least doubt of interpretation may subsist; they are the artifacts most frequently met with in all savage communities. Accordingly, despite their scantiness, these are the words for which we shall find the widest range of comparable material over the greatest geographical extent.

Not because things are small should we despise them. It were greatly to be desired that in this word-list we should find more vocables which may be referred to the stock of some 250 words in this broad area which are critical of language affinities. How few are referable to that stock we shall see in this annotation, picking each out one by one as we encounter it in following out the alphabetization in which the vocabulary has just been presented. Yet each unit is found to be of the highest importance when its affiliations in other languages add instance after instance of its employment by the dozen, by the score, to the hundred mark, and in some cases even beyond.

In this chapter we shall confine our associations of these vocables to the affiliations recognized in lands which lie eastward and southward from the Arop-Sissano lagoons—eastward over the extent of thousands of miles of ocean sparsely dotted with the island homes of men, southward after an interval which is blanked by the rugged mountainous interior of New Guinea, as to which we lack all information which might bear upon the study of its inhabitants. Because I feel that not on the existing scanty material are we justified in assuming as proved the classification of the island languages into families, I must set down a note as to the subdivision of this eastward and southward material, reserving the discussion of the arguments involved until the conclusion of this assemblage of pertinent material.

We find the languages of New Guinea assigned to position as Papuan or Melanesian. From the Bismarck Archipelago to New Caledonia and Fiji the term Melanesian is employed with the character of a language family. Eastward from Fiji to Eater Islands, northward to

Hawaii, southward to New Zealand, we meet with a common family of languages denominated the Polynesian.

As to the Polynesian we need have no hesitation. We have abundant material from more than a dozen widely separated regions of the existence of a language of a common parentage. Doubt may exist as to the source of the Polynesian; there can be no doubt in the wealth of material as to its position as a speech family.

In Melanesia we lack the richness of Polynesian material. At best we have but a few vocabularies which may be at all characterized as dictionaries; of nearly 200 languages we have no more than brief and as yet quite unstandardized word-lists. For convenience of assignment of the affiliations with which we deal in this examination, I shall continue the employment of the familiar term, but solely as a geographical designation and without prejudice as to the philological principles involved. As a geographical convenience I subdivide this area into three divisions. The southern extends from the Isle of Pines through New Caledonia and the Loyalties, to include Aneityum, Tanna, and Eromanga; from this southern division of Melanesia I omit the Fijian, for I prefer to consider that in connection with the Polynesian, with which it is at least equally allied. Central Melanesia in this division embraces the New Hebrides, the Banks and Santa Cruz groups, from Efaté north to 10° south latitude. Northern Melanesia comprises the Solomon Islands from San Cristoval to Buka.

Northwestward of the Solomon Islands lies the Bismarck Archipelago of two principal islands, New Pomerania and New Mecklenburg, from the latter of which New Hanover is separated by no more than a narrow channel. Included geographically in the group lie the Admiralty and several other small islands. Because we know as yet so little of the races which are inhabitants of these islands, I repeat the geographical subdivision here and temporarily sunder them from the association which they may be found to possess with the Solomon Islands in one direction and with New Guinea in the other. To the Bismarck Archipelago East I assign so much of New Pomerania as lies upon St. George's Channel, the Duke of York or New Lauenburg group which lies within the channel at its narrowest point, New Ireland, with New Hanover and several islands lying eastward. The Bismarck Archipelago North comprises the Admiralty group, the Hermit group, and associated islets. The Bismarck Archipelago West comprises those languages in the neighborhood of the Vitiaz-Dampier Straits which we owe almost wholly to Friederici's zeal of collection.

For the present I deem it best to refrain from the New Guinea division into Papuan and Melanesian, which my predecessors have employed. In these notes I follow a geographical division. New Guinea North extends as far eastward as the tip of the promontory

which is washed by the Vitiaz Strait, including therewith Tami Island. New Guinea East extends from Huon Gulf around upon the south coast as far as Dufaure Island. New Guinea South extends from Dufaure Island along the shore of Torres Straits and the Gulf of Papua. West of the boundary of the Possession of Papua we have such insufficient material that I have found little that is pertinent; the same is, in fact, true of the coast of the Possession lying west of Port Moresby.

In this chapter the examination of exterior identifications is confined to the eastward, therefore later, migration points; in the next we shall assemble the western or Indonesian identifications which *ex hypothesi* we hold for earlier affiliations in the sweep of folk-movement. I append to the chapter a check-list of the languages brought into this comparison, with an index note assigning to each its position in this classification. In a few instances for which no exterior affiliations appear I have made such notes as suggest themselves in the comparison of various Sissano words among themselves.

1. **ai** wood.

REFERENCES: Melanesische Wanderstrasse, 57: 68, 101*d*. Deutsch-Neuguinea, 216. Codrington, 51: 65. Turner, 357. Ray, 502: 144. Subanu, 121.

POLYNESIAN.

kau Futuna, Niuē, Fakaofo, Manahiki, Nuguria, Maori, Rarotonga, Tongarewa, Mangareva, Paumotu, Fotuna, Sikaiana, Nukuoro, Rapanui, Moiki, Tonga, Uvea, Marquesas, Viti.

'au Samoa.
au Hawaii, Tahiti.
kao Aniwa.
kou Aniwa.
kai Viti.
oi Rotumā.

MELANESIAN.

1. **ai**	Sissano, Arop, Graget, Bilibili, Jotafa, Manám, Karkar, Paup, Vitu, New Hanover, Kowamerara, Kilenge, Panaieti, Wedau, Raqa, Oiun, Malekula, Ulawa, Bululaha, Alite.	18. **tankei**	Merlav.
		19. **tenge**	Motlav, Volow, Norbarbar.
		20. **retenge**	Vuras.
		21. **rekenge**	Mosin.
		22. **enge**	Pak, Sasar, Alo Teqel.
		23. **dango**	Saa.
		24. **ka**	Wogéo.
		25. **go**	Rubi.
		26. **ke**	Lou, Pāk, Umre, Leng.
		27. **ge**	Malekula.
		28. **gi**	Tanna.
		29. **eagi**	Taupota.
		30. **oeagi**	Suau.
		31. **elagi**	Taupota.
		32. **kaiwa**	Sariba.
		33. **kaiwe**	Dobu.
		34. **awé**	Kobe.
		35. **au**	Mekeo, Pokau, Doura, Kabadi, Motu, Hula, Uni.
		36. **hau**	Motu.
		37. **hau-ubu**	Keapara.
		38. **gau**	Marina, Sinaugoro.
		39. **gau-bu**	Galoma.
		40. **kau**	Sesake, Efaté, Epi, Nguna, Aneityum.
		41. **maeau**	Tavara.
		42. **maiiau**	Tubetube.
2. **aie**	Sissano, Lihir.		
3. **ei**	Yakomul.		
4. **eb iai**	Lamassa.		
5. **ieich**	Tumleo.		
6. **sere ie**	Nengone.		
7. **iă**	Graget.		
8. **hai**	Vaturanga, New Georgia.		
9. **kai**	Murua, Kiriwina, Galavi, Paluan, Bierian, Malo, Epi, Longa, Leut, Aneityum.		
10. **gai**	Fagani, Nggela, Bugotu, Omba, Gog, Tangoan Santo.		
11. **gae**	Arag.		
12. **gair**	Murray Island.		
13. **regai**	Gog.		
14. **raga**	Lo.		
15. **rega**	Lakon.		
16. **geiga**	Maewo.		
17. **tangae**	Mota.		

43. **malau**	Awalama.	58. **keyama**	Mukawa.
44. **kasu**	Efaté.	59. **kelama**	Galavi, Boniki, Mukawa.
45. **gazu**	Nggao.	60. **rogona**	Awalama.
46. **hasie**	Wango.	61. **rogoma**	Taupota.
47. **matiu**	Roro.	62. **roi**	Hámatana.
48. **madiu**	Mugula.	63. **ruai**	Petát.
49. **maziu**	Roro.	64. **liye**	Ambrym.
50. **diwai**	Duke of York.	65. **mokomoko**	Uni.
51. **a ndivai**	Gazelle Peninsula.	66. **hiwo**	Tubetube.
52. **a davai**	Kabakaul.	67. **kabakil**	Misima.
53. **no**	Ndeni.	68. **abei**	Barriai.
54. **ono**	Uni.	69. **rubwa**	Tagula.
55. **ena**	Nifilole.	70. **daha**	Bisapu, Punăm.
56. **vengara**	Kiviri.	71. **kumbau**	Nókon.
57. **vegara**	Kubiri.	72. **saqereu**	Nada.

When discussing this stem upon its identification in Subanu, I drew attention to the fact that we here assemble three stems, and it is by no means within our present power to prove that they derive from a common source. With all the material in this list which we may justifiably associate with each stem for purposes of examination these three stems are **ai** (1–34), **au** (35–43), **asu** (44–49). Before taking up the consideration of these major stems we shall make a cursory examination of the other words from this area which do not come into association with the triad. In citing these extraneous forms for the note of such interassociation as may appear, I adduce a central form, but wholly without prejudice of eventual determination of source.

diwai (50–52). These three have clearly one source. They are found within a narrow geographical range in the eastern Bismarck Archipelago, the Duke of York being the group of islands within the narrows of St. George's Channel, the Gazelle Peninsula and Kabakaul being within eyeshot on the northeastern promontory of New Pomerania. There is no grave phonetic difficulty in associating therewith **ruai** (63) and **roi** (62); the mutation **r–d** is very frequent in these languages, and **duai** is not remote from **diwai**, and from **ruai** to **roi** is a simple step. There is no geographical obstacle, for Petát is on the eastern shore of St. George's Channel, and Hámatana in the northern Solomons is within the range of recent folk-movement.

ono (54). It is not unlikely that **no** and **ena** may possess a common source. Superficially **ono** is closely affiliated herewith. Ndeni and Nifilole are not widely separated in the northern edge of central Melanesia along a track of migration which I have sought to establish as issuing through Torres Straits. Uni is remote, at the extreme bight of the Gulf of Papua. No matter how the movement of possible migration along that coast be explained, whether according to my theory as from west eastward along a main channel out of Indonesia, or according to Friederici's view as a backward movement from east westward as migrants coasting New Guinea from its north shore, this stem should make its reappearance somewhere between the Gulf of Papua

and the New Hebrides if it is to be considered common with the Ndeni and Nifilole forms. Uni exhibits recognizable occurences of the common migrant material, but this lies outside that class.

vegara (57). Kiviri and Kubiri are separated by no great distance across Collingwood Bay on the north shore of Papua; the two languages are in general similar; the mutation **n–ng** is common in this area. In Ray's material this is the only instance of its occurrence between Kubiri and Kiviri. On the other hand, I note but a single instance in which **g** is common to the two languages.

kelama (59). The form **keyama** is either subdialectic or individual in Mukawa, for we find the **kelama** form as well. We have several instances of this **l–y** variety within Mukawa.

rogona (60). We shall regard this as the type form, **rogoma** the derivative, for in a later instance (**ain** 4) we shall find **ani** in the general stem and **am** as a Taupota secondary form.

The remaining forms in the list occur but once each; not one seems associable with any other.

Stem ai.

This is numerically the most frequent by far in New Guinea and Melanesia. We find it as a nude stem; we also find it with a palatal prefix. As to the latter point we may not speak definitely as to whether it is an assumption upon the nude stem or the word has undergone frontal abrasion from a primal stem **kai** into the form **ai**. In the recent variety of speech in the Pacific we have abundant evidence of the disappearance of **k** as objectionable, followed by the resumption of that consonant as coming once more into fashion; but in this resumption it is not restored to the place which comparison with unaffected languages shows it should fill, for it reappears as a **t** contamination. To assume a primal **ai** stem reasonably accords with my theory of the growth of these languages by the application of consonantal modulants.

aie is reported by Neuhauss from Sissano, where Friederici finds the simpler **ai**. To the latter we owe its ascription to the eastern Bismarck Archipelago, geographically remote. With it we may compare 32–34, in which **awe** is found in the western Bismarck Archipelago and **kaiwe** and **kaiwa** on islands at the southeast promontory of New Guinea. In the Lamassa we may identify **ai** with prefix of **i** and from this we may pass to **ia**. Assuming the consociation of **ei** with **ai**, and Yakomul is in the region on the north coast of New Guinea where **ai** predominates, we note the corresponding series **ei–iei–ie** (3, 5, 6). We shall base no argument on these two series, for each rests upon a single instance in each of its members, but we enter them upon the record for such value as they may possess. Ray makes an obscure note upon the series of words signifying the bow, "its stick (*i. e.*, of arrow)." This note applies to Awalama **aina**, Taupota **pidu–aina**,

Galavi keina, and Boniki kaena. It is possible that this will be held sufficient warrant for the inclusion of these forms in conjunction with this ai stem.

When modulation is applied to the ai stem we find a prefixed palatal mute, surd in kai, sonant in gai, the difference not diagnostic but resting upon the habit of the particular speech. The variety of hai (8) is controlled by local conditions. Codrington establishes the rule that the g of Nggela speech becomes h in the passage to Vaturanga, close neighbors in the Solomons. We lack this statement for his unparticularized language of New Georgia, but as it is within the same circle of speech the same rule probably holds. Accordingly we regard hai as a variant of the gai series. As to 12 we make this note: Codrington records gair as from Murray Island, but in Ray's more recent and far more complete study of the speech of the languages of the islands of Torres Straits nothing in the least resembling this is recorded either in Miriam or Mabuiag, the two languages which cover whatever region might appear as Murray Island in any source from which Codrington might draw. The Arag gae (11) is scarcely distinguishable from the gai type and occurs in the close vicinity thereof.

From 13 to 23 we encounter a perplexing variant; yet because it is included within regions of the predominance of the kai type we must regard it as associated with that stem. It appears to be a kai mutant with one or more prefixes of a nature which we can not yet identify in sense value. In examining the mutants of the stem we need pay little attention to the passage g–ng and k–nk, for these are common in the Pacific. As variants set upon the gai stem we note regai (13) and tangae (17) immediately associable with gae (11). As variant set upon the kai stem, with the same mutation to kei as appears in ei from ai (3, 5), we note tankei (18). From 13 and 17 depend in succession 14–16; from 18 depend 19–22. In 13–15 we find the prefix ra (re), in 17–19 the prefix ta (te); in 20–21 we have both prefixes, for the mutation te–ke (21) is normal in these languages. In 22 in a group of closely allied village dialects te has become e through a habit of dropping t which characterizes these languages. In 16 we seem to have a duplication of the gai stem gei, after the manner of kei (18) and a degradation form ga as in 14–15. In 23 we leave this particular area and are at some distance in the Solomon Islands, yet the relation with the type 17–22 is unmistakable; we regard da as the variant of ta (17–18), and go as a further deterioration of gai through ga (14–16).

In 24, 26–28 we find demolition forms of kai–gai with which we have familiarized ourselves in the next preceding paragraph. The go of 25 may be, as we have found needful in 23, a residual of gai; but by reason of its occurence in a region of the predominance of the kau stem (35–43) it will be preferable to assign this to that source.

The group of consimilars 29–31 is particularly difficult of adjustment. The three forms occur in two languages north and south of the extreme southeastern tip of New Guinea. The only forms with which a possible stem gi might be related are 26, found at a considerable distance in the northern Bismarck Archipelago, and 27, still more remotely placed at the south of Melanesia. The prefix of this putative stem eludes analysis.

Stem au.

Here we associate the forms 35–43. In 41–43 we have a distinct association restricted to two points at the southeastern tip of New Guinea and an island lying not far off that shore. This type suggests a kinship with the au stem, modulated by a prefix composition member of uncertain value. In the Tavara and Tubetube the difference is so slight as to be negligible, the appearance in Awalama of l in the place of a vowel recurs in several instances in that language and is paralleled by the same usage in Galavi, Boniki, and Mukawa (59), and probably in Taupota (31), these languages being found not widely separated on the same stretch of coast.

Associated with this au stem we find the same consonantal modulants as with ai, namely, h, g, k. Motu and Keapara (36–37), closely allied languages, most probably derive their hau from the gau form, since that alone appears in that neighborhood. The kau type is found only in the New Hebrides. Concerning the affix ubu (bu) (37, 39) we continue Ray's note that probably it signifies the trunk, and we point out that in the Polynesian employment of this au stem it is almost wholly without ability to stand alone, requiring the preface of another member, which usually yields the form of the type la-kau.

Stem asu.

I present this stem in the nude form solely through inference, for in none of the material which we examine does it appear without the support of a consonantal prefix. If we admit hasie we have in 44–46 the same series of consonantal modulants, h, g, k, as in ai and au. Codrington's material from Wango affords no second instance of a transformation of final u to ie, but at the same time it is to note that his material affords only one instance where such a transformation might be possible, namely, that of asu. Yet since it lies on the track of migration toward communities in which the kasu stem appears unmistakably, we need have no hesitation in admitting this to the series, despite the vowel anomaly. The forms 47–49 are less clear. They occur at widely separated spots on the south shore of Papua—languages so different in vocabulary that in Ray's collection we find but two other words in which the slightest similarity may be discovered. Despite this objection there is sufficient resemblance to suggest a

connection with the **asu** stem; mutation of **s** to its sonant **z** and to the mutes of the same series is familiar in the collation of the languages of this general region; we are not to suppose a mutation of palatals to labial nasal **m**, but rather to look upon that as a distinct consonantal modulant applied to the common stem.

In the next chapter we shall recur to the distribution of these three stems and shall attempt to trace their broader geographical distribution. At this point we draw attention to the fact that both **ai** and **au** pass through Melanesia and along the track of later and eastward migration; **ai** just impinges upon Nuclear Polynesia in Viti and Rotumā after showing a wide use in Melanesia; **au** with much less frequency in the western islands has overrun the whole of Polynesia, and is found equally in communities of the Tongafiti and the Proto-Samoan migration from Samoa forward.

3. **aieripin** wooden shield.

Since Neuhauss uses the form **aie** for wood instead of **ai** it seems reasonable to regard this as a composite of **aie** and **ripin** and to regard the latter as a vocable of undetermined sense (83). This word-list is so exiguous, there is so complete an absence of phrases whereby we might uncover the usage, that we are by no means equipped to explain the second member of this composite. The only assistance which we find is in items 56, 88, 102, and 119 of the word-list in the preceding chapter. In 56 we find two words set together; **man băl**, of which the former is unmistakably identified as a common word for animal and particularly bird, seems to be a case of apposition of a general noun with its particular appellative in which may, and presumably does, inhere a descriptive value; **man dopún**, however, appears to our comprehension as a genitive or adjectival use of **man** with **dopún** as the principal noun, therefore the modifier preceding the theme. In 88 we find no assistance on this point, for **sel** and **kabon** are equivalent structural parts of the sago-pounder as being the stone and its wooden helve. The arrow designations (102) suggest that the principal noun comes in the former position and the modifier follows; this order appears also in the analysis of the instances in 119. Therefore we may interpret **aieripin** in the sense that **ripin** has adjective value limiting or describing **aie**. There remaims the possibility that **n** is the sign of third personal possession and that **ripi** is the second stem.

4. **ain** to eat.

REFERENCES: Melanesische Wanderstrasse, 53: 41. Deutsch-Neuguinea, 188, 199. Turner, 370. Ray, 487: 41. Subanu, 124. Polynesian Wanderings, 191.

POLYNESIAN.

kai	Marquesas, Rarotonga, Manahiki, Niuē, Fakaofo, Tonga, Maori, Paumotu, Rapanui, Mangareva, Nukuoro, Kapingamarangi, Futuna, Uvea, Nuguria, Fotuna.	**ai**	Hawaii, Tahiti, Marquesas.
		'ai	Samoa.
		kana	Viti.
		kani	Viti.
		ate	Rotumā.

MELANESIAN.

1. **ai**	Suau.	19. **angi**	Mekeo.
2. **e'ai**	Dobu.	20. **ean**	Barriai.
3. **kai**	Sariba.	21. **aan**	Nufoor.
4. **kaina**	Aniwa.	22. **an**	Panaieti.
5. **qai**	Mugula.	23. **ana**	Roro.
6. **kani**	Tubetube, Galavi, Boniki, Mukawa, Oba, Marina, Epi, Sesake, Efaté.	24. **anan**	Misima.
		25. **a**	Oiun.
		26. **hani**	Keapara.
7. **kan**	Kilenge.	27. **lani**	Kelana.
8. **kanega**	Tagula.	28. **hanahana**	Ulawa.
9. **gani**	Rook Island, Sinaugoro, Mahaga.	29. **ghen**	Lifu.
		30. **hang**	Aneityum.
10. **g'ani**	Omba, Arag.	31. **eng**	Jabim.
11. **gania**	Rubi.	32. **ing**	Jabim.
12. **ganigani**	Galoma.	33. **vanga**	Nggela.
13. **gan**	Tami.	34. **kam**	Kiriwina, Galavi, Mukawa.
14. **gaan**	Solor.	35. **kom**	Kiriwina.
15. **gangan**	Malo.	36. **qam**	Murua.
16. **nganngan**	Arag.	37. **am**	Tavara, Taupota, Wedau, Kwagila, Raqa, Kiviri.
17. **gad**	Nada.		
18. **ani**	Roro, Uni, Pokau, Kabadi, Motu, Hula, Tavara, Awalama, Taupota, Wedau, Ninigo.	38. **ni**	Tanna.
		39. **nenini**	Eromanga.
		40. **kaka**	Nengone.
		41. **balu**	Kubiri.
		42. **ki**	New Caledonia.

Two stems are clearly present in this collection, **ai** and **ani**, each of which has undergone such consonantal modulation as we have already seen in the first of these note items, and the latter extends through a long series of demolition forms which we could not associate with the **ani** stem if it were not that we find successive disintegration stages set out in an orderly array. The items 38–42 and **ate** of Rotumā I regard as extraneous to these two stems. It may be that **ni** (38) and the associable Eromanga word derive from **ani** quite as much as does **an** (22) and **a** (25); but the examination of the material shows that **ni** represents a different principle effective upon the **ani** stem. We have abundant confirmation of the demolition applied to the final in **ani–an–a**, but 38 and 39 are the only instances which at all suggest that the final syllable remains strong and that the weakening appears in the initial syllable. The items 40–42 are wholly remote from any possibility of association with the two stems of this series.

Stem ai.

This is the common word throughout Polynesia in both migration waves. It has been assumed into the Beach-la-Mar jargon as **kaikai** and thus has received a wider currency which might lead to error in interpretation of its presence in languages where it is not reasonably to be expected. In Melanesia it is found in five stations of observation, four of which cluster about the southeast cape of New Guinea. Especial note should be made of the Aniwa **kaina** (4). Although this island is included within the New Hebrides, its population and speech are largely Polynesian, and in general I include it within that speech family. Its **kaina** is a transition form between Polynesian **kai** and Viti **kana**, and the association of the latter with **kani** will appear in the examination of that stem. The **ai** stem is not complete;

it lacks hai and gai, which we might expect; but the ai and kai forms are typical of the modulation which we have seen in item 1 and which we shall shortly see in the ani stem. The Dobu e'ai (2) seems to be ai with a preface; in Ray's list there are evidences of the use of k, and there is nothing corresponding to e' through which we might arrive at a better comprehension of the form. In Mugula qai (5) we encounter the so-called Melanesian q, a phonetic unit which requires some explanation.

From my earlier studies upon this subject I extract the following citation:

> We observe a group of forms in which the initial consonant is subjected to a wide yet systematic variation. This peculiarity is known as the Melanesian q. It is a composite of k and b and w; in this composite k may become ngg, b may become mb or p. It is not to be interpreted as the effort on the part of Melanesians to compass an unwonted Polynesian sound, for it is of far greater frequency in Melanesian words for which we can find no affiliation with Polynesia. Rather are we to regard it as showing the struggle in sound evolution by a primitive people in the genesis of their speech who are coming into first possession of a labial mute and whose untrained buccal muscles reveal to us the wrestling.*

Ray records the use within the area of the so-called Melanesian languages of Torres Straits as follows (page 419):

> The compound guttural and labial consonant, which is common in the Melanesian Islands, is found also in New Guinea, but nowhere with its full sound *kpw*. Just as in the Island languages, as the guttural is sooner or later superseded by the labial the sound of *k* or *p* relatively predominates. In some languages, or in some words in one language, one or the other element is conspicuous, so conspicuous that either the guttural or labial is missed. On the mainland of New Guinea the sound is always a combination of a guttural with *w*, as *kw* or *gw*. It is remarkable that whilst the combination with a labial is not found on the mainland it is very common on the Louisiade Islands, where *pw* and *bw* are found in all the languages except Misima and Tagula.

It is clear that q in the Melanesian languages as established most largely under the direction of Codrington and q of the New Guinea languages refer to different phonetic elements. The confusion arises from the fact that the missionaries to whom we owe the first records of speech in this region have mistaken q as the representative of any obscurely mouthed consonant. In Melanesia it is a labial which is thus obscured; in Torres Straits it is a palatal, for Ray writes "it is always a combination of a guttural with *w*."

Accordingly this qai is really kwai or gwai, and that is closely akin to kai or gai.

Stem ani.

Much of our material assignable to this stem is readily grouped after a simple series exhibited in this tabular form:

ani	ana	an	a
kani		kan	
gani		gan	ga
hani	hana	han	

*The Polynesian Wanderings, 332.

Here we have exactly the series of consonantal modulants which we saw employed in the first item of these notes.

The nude stem ani (18) is by far the most frequent type in Torres Straits; in fact these records identify it in a single occurrence outside this region, namely, in Ninigo of the northern Bismarck Archipelago. Herewith we include Mekeo angi (19) with the note that n–ng mutation is frequent in that speech. The demolition form an may be the result of the final abrasion applied to ani or ana, and the same uncertainty persists through the yet more fragmentary form a. In Barriai ean (20) and in Nufoor aan (21) we note the same sort of prefix as in Dobu e'ai (2). In accordance with the simple n–ng mutation we may include Jabim eng and ing as variants of an, this being the more probable since the material includes so large a proportion of ani material and lacks any other stem form from which this might derive.

The ani stem in New Guinea appears both on the south coast and at the east; kani (6) is restricted to the east promontory and then leaps to the New Hebrides and to Viti. The first abrasion form kan appears in the Bismarck Archipelego. In kanega (8) of Tagula we find a suffix for which we lack explicative material; we note that suffixes appear in gania (11), gad (17), and in anan (24).

Our gani series is represented from 9 to 17 and in the simplicity of its ordering calls for little more than inspection. Duplication is present in 12, 15, and 16, and in the hana series in 28. Arag nganngan (16) lies within the n–ng mutation and is unmistakable. Nada gad (17) is a doubtful form; in the preceding paragraph I have included it with the suffixed forms as produced from a final abrasion type ga. Such a ga would fall in series with a which we have found to exist; it would then enlarge the series to such an extent that we might feel justified in interpolation of a theoretical ka for the establishment of the Nengone kaka (40). Yet since the whole question of a suffix rests on scant and uncomprehended material we may not give this suggestion whole support. It is far more probable that this gad is associated with the Polynesian kati stem as meaning to bite; in fact, Ray's material collated in that sense seems to establish this beyond peradventure.

The hani series, quite typical in the treatment of nude stem with consonantal modulant, is very brief in this material. Keapara yields us the type form hani (26); the lani (27) of Kelana in western Bismarck Archipelago is anomalous, for the type of consonant modulant in these stems lies in the palatal series and here we have a lingual liquid. This removes it from the possibility of mutation; but the liquid is, in speech evolution toward consonant possibility, an earlier acquisition, therefore we may look upon lani as a treatment of ani in the process of particularization more primitive than the palatal series of which kani is the type.

5. **aisebot** taro pestle.

This is clearly a compaction of **ai** wood with **sebot**, of sense not to be determined from the scanty data here presented. A note as to the carving of the handle of this implement will be found at page 16.

7. **andaman** brother-in-law.

Here is naturally suggested a connection with another term of relationship, **daman** father. We lack material upon which to base an interpretation of the **an** element, if it is to be considered a word stem, as it is safe to assume. Much remains obscure in the sense of such a compaction, for we can not readily figure to ourselves any system of affinity in which any element conditioned by the word for father can result in brother-in-law, a passage from consanguinity to affinity. Furthermore, it is to note that in the social system of these savages the relationship of brother-in-law does not arise for specific designation. It is altogether likely that we have here an error in recording.

8. **ănó** family house.

REFERENCES: Melanesische Wanderstrasse, 85*b*. Deutsch-Neuguinea, 210. Turner, 357. Ray, 492: 77. Polynesian Wanderings, 341. Subanu, 113.

POLYNESIAN.

fanua Samoa, Aniwa, Fotuna.
hanua Rotumā.
vanua Viti.
fenua Futuna, Uvea, Sikaiana, Vaitupu, Kapingamarangi, Moiki, Fakaofo, Marquesas, Tahiti.
henua Nuguria, Marquesas, Rapanui, Paumotu, Manahiki.
whenua Maori, Bukabuka.
enua Mangareva, Bukabuka, Rarotonga.
fonua Tonga, Niuē.
honua Hawaii.

MELANESIAN.

1. **vanua** Arag, Vanua Lava, New Georgia, Marina, Maewo, Sesake, Malo, Mota, Omba, Ugi, Kabadi, Uni, Pokau, Vitu.
2. **vanue** Omba.
3. **vanu** Lakon.
4. **vanu-ga** Sinaugoro, Hula, Keapara.
5. **venua** Epi, Santo.
6. **venuo** Baki.
7. **vene** Retan.
8. **vonua** Baki.
9. **vono** Pak, Sasar, Vuras, Leon.
10. **na-vno** Motlav.
11. **vonio** Norbarbar.
12. **wanua** Duke of York.
13. **qano** (kwano) Hula.
14. **fanua** Bierian, Efaté.
15. **fáneu** Central Carolines.
16. **fánŭ** Graget, Paluan, Leut, Lamassa.
17. **fanufan** Mortlocks.
18. **fenua** Vanikoro.
19. **fenu** Malekula.
20. **finua** Fagani.
21. **panua** Mekeo, Panaieti, Barriai.
22. **pangua** Mekeo, Panaieti.
23. **panu** Karkar, Pāk.
24. **pánūh** Tami.
25. **pŏn** Vrinágol.
26. **poón** Sissano.
27. **poóm** Arop.
28. **banua** Galoma.
29. **bang** Bilibili.
30. **bínă** Lauan, Nonapai, Lakurefanga, Panangai, Sali, Lemakot.
31. **bínĕ** Lakurumau, Munuwai, Lochagon, Fezoa, Lawu.
32. **bónu** Lou.
33. **mbona** Nggela.
34. **hanua** Ugi, Laur, Lambell, Motu.
35. **hánuo** Bissapu, Laur.
36. **henua** Saa.
37. **henue** Saa.
38. **hăn** Hanahán.
39. **eanua** Suau.
40. **ianua** Tubetube.
41. **anua** Roro, Motu, Manám.
42. **anu** Rubi.
43. **ănó** Sissano, Arop, Malol, Tumleo, Paup, Keapara.
44. **ēne** Marshalls.
45. **no** Sissano, Arop, Malol.

The sense diversity herein involved, though not particularized in this series of variant forms, has been sufficiently discussed in "The Polynesian Wanderings" and in "Subanu." We sum the conclusions there set forth in the statement that in Polynesian culture the stem may signify the mold, the land in which one lives, the whole round world. In Melanesia it may signify place in general, then island (as in the Polynesian Kapingamarangi), village, last of all house, as here in the Sissano. The specification in this definition of the usage in Sissano is employed to set the family house off against the more dignified houses of the men's society and the so-called spirit houses.

Friederici disclaims any purpose of establishing for the degradation forms found in New Guinea and the Bismarck Archipelago the devolution from the **fanua** type; yet in my judgment a very satisfactory descending series is manifest in the foregoing ordering of the material. This we shall examine through the Melanesian area in the light of such suggestion as may be deduced from the history of the word in the modern Polynesian tongues. There we see in operation a double set of modifications.

We have already established as fact that the more permanent element of any Polynesian vocable inheres in its vowel skeleton; that the play of mutation most variously affects the consonantal element. We shall, accordingly, give our first consideration to the less fixed consonants of the stem. We shall find in the Polynesian forms a normal diagram of the word which may be presented to view in the formula labial + vowel + **nua**, in which the final element is fixed and undergoes no change. We have had occasion to establish the fact that in this family of languages the labials are of all consonants the most subject to mutation and have offered in explanation of this phenomenon the hypothesis that this mutability lies in the fact that the speakers of the languages in question have not yet far advanced upon the control of the lips as speech organs to be employed with fine precision. The strongest form of this initial labial is the spirant; sonant spirant **v** is found only in Viti **vanua** and is there associated with the **a** type of the mutant vowel; surd spirant **f** appears in the three forms **fanua, fenua, fonua,** associated with each of the three types of the mutant vowel. From this strong labial position the next step in mutation is upward in the series, that is, toward the weaker quality, arriving at the aspiration; here also we find in use the three vowel types in the forms **hanua, henua, honua.** The next step is a weakening to the semivowel proximate to the lingual series, **w** as still affected by the aspiration, **hw,** in the Maori **whenua.** The final step is to the obliteration of the initial consonant, as in **enua.** The vowel mutation we have just shown to extend in the series **a–e–o,** and this mutation seems not to be conditioned by any change in the mutant labial which precedes the vowel.

We shall clarify the Melanesian situation by applying in the first instance the stem formula just presented. The forms which follow the formula, for the present disregarding variety in the **nua** element, are 1, 2, 5, 6, 8, 11, 12, 14, 15, 18, 20, 21, 22, 28, 34, 35, 36, 37, 39, 40, 41. In this list the bold-faced type distinguishes forms which are encountered in the Polynesian series. Here we see that the initial consonant modulant follows from the labial spirants **f** and **v** the same course of weakening as in Polynesian, even to extinction (41), for we note (12) the Duke of York **wanua** as in close approximation to the Maori **whenua**, and (34–37) we have an aspirated group from northern Melanesia and the eastern Bismarck Archipelago with an outlier in southern New Guinea. Likewise in eastern New Guinea, in the closely associated languages of Suau and Tubetube, we have (39–40) an interesting form intermediate between **hanua** and **anua**; as between **eanua** and **ianua** the difference is of the slightest; they stand together as a slight transition form produced by the weakening of the spiritus asper, leaving but a ghost of its impress before extinction. In parts of New Guinea and the Bismarck Archipelago we encounter a movement of strengthening of the labial, to the mutes sonant and surd **b** and **p**; so far as relates to this element of the stem these are the forms 21–33, the clearest types being Mekeo **panua** and Galoma **banua**.

We are now in position to consider the initial element of the final evolutionary stage of this stem. Reverting to our stem formula stated as labial + vowel + **nua** and stating for the present specific inquiry the second member, the mutable vowel, as **a**, we reduce the formula to labial + **anua**. We have now to consider the status of the mutant labial in two possibilities. It may have been an original possession of a stem which has undergone mutation in accordance with the habit of the several languages in which we discover it. This is the common system of interpretation of similar cases. Against this interpretation I strongly incline to set the somewhat considerable series of instances in which the mutant labial has reached the strongest position in the mutes **b** and **p**. If the archetype of the stem had been **banua** or **panua** there would have been no need for the Samoan to weaken it to **fanua**, for in the Polynesian languages we have attained to the richest development of the labials to be found in the Oceanic area, and it would have been simple for the Samoan to employ **panua** and for the Viti to employ **mbanua**. On the other hand, if we assume an archetype **anua** we shall find our difficulties resolved. The more intimately I prosecute these minute investigations into primordial stems the more convinced do I become that a theory of mere mutation of consonants fails to account for form variety and the greater support do I obtain for my hypothesis that, in the evolution under the play of conscious intelligence which picks up the animal cry and by the application of consonant modulants with coefficient value transforms it

into a medium of more or less precise communication of thought, we are to begin with the weaker forms, the more vocalic shapes, and employ such consonant possibilities as may exist to the particularization of a diffuse thought into a specific idea.

In this instance assume a diffuse **anua** upon which arises the need of selection of one noumenon for specific designation. It is yet too early to attempt to pick out the broadly diffuse sense of archetypal **anua**. Even when it has been subjected to such influences of precision as we here encounter, we find the sense still far too diffuse to comport with our conception of a vocable as a speech unit, for, as already pointed out, **fanua** has such a wide range of signification as shall include soil, land, house, hamlet, all in a single term. From extended comparison of the vocabulary material we discover that there were many meanings basic in an archetypal **anua**; we note solely for a single instance the **anuanua** which designates the rainbow and probably the Galaxy. When the need was felt in community of the parent stock of this speech, to particularize the group of significations hereinbefore noted there arose, or was reached after selective effort, the plan of employing, as the consonant modulant whose coefficient value should effect this end, a labial or, better stated, to use the lips. In my conception of what took place this determination was arrived at long anterior to the scission into independent speech units of the labial possibilities; this will serve best to account for the widest possible diversity of labial modulants such as we can trace out through this series. We meet here a most interesting problem, the conscious selection of a labial as modulant in this specification. To philology the problem must ever remain recondite, far beyond the possibility of linguistic solution; its comprehension must be left to psychology, and particularly to that new department of speech psychology in which Wundt has made such a brilliant beginning. Here we have not to deal with why a labial was selected for this purpose by infant minds in the infancy of speech; our task is simply to establish from the material spread upon this record before us the fact that by common consent a labial-at-large was chosen for this end and that each of the twigs of this language stem employs such one of the labials as best comports with the genius of its speech. When once the labial-at-large has come into being as the generally accepted consonant modulant of this specification of the vocable, and when each major group of the languages here involved had settled upon what particular strength of labial to employ, we are willing to admit the commonly received laws of consonant mutation as becoming effective. Thus in the case of the strictly Polynesian group we admit the selection of the spirant group and the choice out of that group by consonant mutation of surd Samoan **fanua** and sonant Viti **vanua**.

Next we shall consider the second element of major variety in this stem, the only remaining variant in the Polynesian group, the mutable vowel which precedes the **nua** element. In the Polynesian we find this mutation confined within the series **a–e–o.** In the Melanesian material we discover the great bulk of the mutation within this series, but with two somewhat widely separated centers in which we encounter the **i** type. We note the **a** series, 1–4, 12–17, 21–24, 28–29, 34–35, 38–43. Similarly the **e** series, 5–7, 18–19, 36–37, 44; then the **o** series, 8–11, 25–27, 32–33. The new material which Melanesia introduces, the **i** series, occurs in 20 Fagani **finua** of northern Melanesia but clearly associable with the type **fanua,** and 30–31 **bínă, bínĕ** of the eastern Bismarck Archipelago.

In the Polynesian series we have noted that the **nua** element is subject to no alteration in form; it appears as a constant element. This is by no means the case in Melanesia; the changes offer an interesting study and their systematic evolution is essential to the establishment of the continuity of the stem. The **nua** element remains without alteration in 1, 5, 8, 12, 14, 18, 20, 21, 22, 28, 34, 36, 39, 40, 41.

The consonantal element **n** is but scantily altered; it is almost continuous throughout the series. In 22 we have **pangua** with the **n–ng** mutation, which also appears in 29 **bang.** In 26 and 27 the correlated forms **poón** and **poóm** seem to fall into grouping with 25 **pŏn.** If this be admitted we have the **n–m** mutation. This mutation is excessively rare; in a much wider comparison of Melanesian material (The Polynesian Wanderings, 135) I have discovered but a single instance and that extremely doubtful; of the converse **m–n** mutation there is better proof (*ibid.*, 136). We are, therefore, without solution of the two forms here involved.

Of the vowel mutation of this element the simplest form is that in **nue,** one readily comprehensible. This occurs twice; in 2 **vanue** and in 37 **henue,** in central and northern Melanesia respectively; 15 **fáneu** central Carolines is Micronesian and outside our present limits, yet it is readily explicable as **fanue** after metathesis, a not infrequent modifier. Of the same simple type is **nuo.** This also occurs twice, in 6 **venuo** of central Melanesia and 35 **hánuo** of the eastern Bismarck Archipelago. A more remote modification, yet which seeks to retain the three units of **nua,** is 11 **vonio,** which can not be considered apart from 9 and 10, with which it forms a dialectic group.

The next mutation group is formed by abrasion of the final **nua** vowel, thus reducing the element to two units instead of three. We find this new and degraded element **nu** in 3, 16, 17, 19, 23, 24, 32, 42. Taking **nu** as a new base, we find mutants as follows: **no** in 9, 10, 13, 43, 45; **ne** in 7, 31, and possibly in 44 **ēne** of the Marshalls, Micronesian, and therefore beyond our scope; **na** in 30 and 33.

The ultimate step consists in the abrasion of the secondary **nu** by the still further loss of its vowel. We thus obtain forms in a final **n**, but in each case we arrive at them seriatim and there can be no doubt of their authenticity in devolution; these are 25 **pŏn**, with 26–27 uncertainly associable, 38 **hăn**, and 29 **bang** with the addition of **n–ng** mutation.

10. **ar** pandanus.

REFERENCES: Melanische Wanderstrasse, 122: 11. Deutsch-Neuguinea, 210*d*.

POLYNESIAN.

fala	Samoa, Tonga, Futuna.	**haa**	Marquesas.
fara	Tahiti.	**whara**	Maori.
faa	Marquesas.	**vadra**	Viti.
hala	Hawaii.	**ara**	Mangaia.
hara	Mangareva, Rapanui.	**ka–hara**	Kapingamarangi.

MELANESIAN.

1. **fărăn**	Lauan, Nonapai, Lakurefanga.	13. **ă mbĕl**	Tanga.
2. **fărén**	Sali, Lemakot.	14. **war**	Bongu.
3. **ă férĕn**	Panąngai.	15. **wal**	Tami.
4. **fándă**	Pánaras.	16. **ara**	Gilberts.
5. **far**	Mortlocks.	17. **ă rĕn**	Avelus, Mongai.
6. **vanda**	Vitu.	18. **árĕn**	Majum.
7. **ă vĕdĕn**	Munuwai, Nemassalang, Fezoa, Lawu.	19. **ărárŭm**	Nayama-Pararas.
8. **ă vĕdin**	Lakurumau.	20. **ándă**	Limba, Langanie.
9. **para**	Wuvulu, Aua.	21. **ăndăn**	Lamassa.
10. **părăpără**	Barriai.	22. **ŏár**	Tumleo.
11. **pant**	Bilibili.	23. **ăr**	Sĕr, Sissano, Vrinágol, Akur.
12. **barē**	Luf.	24. **răn**	Bauung, Ngamat.
		25. **rĕn**	Bagail, Lossuk.

Although this Melanesian series involves many obscure forms, there need be little difficulty in tracing out the succession. The Viti **vadra** affords an important clue. This mutation I have determined as the attempt by a preface of the nasal of the same series to protect and preserve the uvular **r** (Samoan Phonetics, 17 Journal of the Polynesian Society, 152). The principle of nasal support appears active in 4, 6, 11, 13, 20, and 21. The mutation **l–d** or **r–d** is well recognized in Melanesian studies and calls for no particular comment. We note a final **n** concerning which we can have no Polynesian evidence, since we have no record of noun substantives before the present type of open syllables was adopted. It is so well represented in the Melanesian material that we safely regard it as a part of the original stem; it is found in 1, 2, 3, 7, 8, 17, 18, and 21. Assuming an archetypal **faran**, we have in 1–5 a simple series of forms with **f** initial, in which 4 **fanda** corresponds to Polynesian **fala** and **fara**. In 6, 7, 8 we find a series in which the initial consonant has undergone mutation to **v**; in 9, 10, and 11 to **p**; in 12 and 13 to **b**; and in 14 and 15 to **w**. We thus are led simply from an archetypal **faran** to 11 **pant**, and thence by ready inference to **pantan** or **pandan**, the latter being the Malay designation from which we have latinized pandanus, for the common

derivation by dictionary etymologists from Malay *pandang*, meaning conspicuous, lacks both accuracy and sense. From 16 to 21 we find the same treatment applied to a working stem lacking the initial labial; 19 **ărărŭm** is here included, but with some doubt, for the **rŭm** element is incongruous and we lack data upon which to explain it. In 22 and 23 we find an **ara** stem after final abrasion, and in 22 **ŏár** we find a step slightly weakened from the semivowel stage which occurs in 14 **war** and 15 **wal**. In 24 and 25 we find the archetypal **faran** reduced by frontal abrasion. Probably this represents an archetypal **aran** not yet differentiated by the initial labial, and the abrasion in 24–25 is then not syllabic, but merely the wearing off of frontal **a**.

11. **ărâu** sun.

REFERENCES: Melanesische Wanderstrasse, 133*d*. Deutsch-Neuguinea, 200:10. Ray, 501:135.

1. **garo** Galoma.
2. **galo** Sinaugoro.
3. **haro** Keapara, Kerepunu.
4. **ărau** Arop, Sissano.
5. **râŭ** Sēr.
6. **ārŏ** Barriai.
7. **aro** Hula.
8. **aru** Rubi.
9. **alo** Efatē, Malo, Tangoa, Wuvulu, Aua, Kaniet.
10. **aloan** Ninigo.
11. **al** Marshalls.
12. **at** Graget.
13. **ant** Bilibili.

This stem falls quite short of the Polynesian family; in fact, with one notable exception, it is confined to the region of New Guinea and the Bismarck Archipelago. The exception is 9 **alo**, which appears at three stations of record in central Melanesia. It is quite impossible from the slight available material to determine whether the consonantal prefix in 1–3 pertains to an earlier stem or has been assumed in conformity with some local influence; we note that the forms are narrowly restricted to a single region in Papua. The series 6–9 involves no difficulty, and 10 **aloan** is probably **alo** compacted with a modifier whose sense we are unable at present to determine. The Marshall Islands lie outside our province, but 11 **al** is readily derived from **alo** and we include it here as providing the connecting link whereby the **l-t** mutation may establish the place of 12 **at** and, with the addition of the principle of nasal preface, may set 13 **ant** in the series. In these studies we find abundant evidence of the employment of diphthongal **au** in place of **o**; therefore 4 **ărau** is readily derivative from **alo**, and 5 **rau** follows by frontal abrasion.

12. **at** stone.

REFERENCES: Melanesische Wanderstrasse, 135. Deutsch-Neuguinea, 211:103. Ray, 500:133. Subanu, 115.

POLYNESIAN.

fatu Samoa, Tonga, Niuē, Tahiti, Fakaofo, Futuna, Aniwa, Fotuna, Sikaiana, Manahiki.
vatu Viti.
hatu Kapingamarangi.
hathu Rotumā.
whatu Maori.
haku Hawaii.
atu Mangareva, Mangaia.

MELANESIAN.

1.	**fatu**	Efaté, Nguna.
2.	**fat**	Lamassa, Lambóm, Ngolhon.
3.	**făt**	Lauan, Nonapai, Lakurefanga, Sali, Panangai, Lemakot, Fezoa.
4.	**fas**	Feis, Mogomog.
5.	**vatu**	Nggela, Vaturanga, Sesake, Bierian, Mota, Arag, Vitu, Sigab, Kowamerara.
6.	**vat**	Mota, Belik, Lakurumau, Munuwai, Lochagon, Nemassalang, Lawu.
7.	**ă vat**	Molot, Kait, Kalanga.
8.	**ni–vat**	Eromanga.
9.	**votu**	Tatau, Bierian.
10.	**vŏt**	Marei, Simberi.
11.	**veto**	Iai.
12.	**veat**	Volow.
13.	**ve'e**	Alo Teqel.
14.	**ve**	Nifilole.
15.	**ni–vit**	Malekula.
16.	**varu**	Tagula.
17.	**var**	Malekula.
18.	**wat**	Duke of York, Raluana, King.
19.	**watwat**	Baravon, Duke of York.
20.	**hátŭ**	Hanahán.
21.	**hat**	Bissapu, Punam, Nokon, Lemusmus.
22.	**hât**	Pala, Lambell.
23.	**hăt**	Suralil.
24.	**hăt'**	Hamatana.
25.	**'hat**	Kalil.
26.	**'hât**	Laur.
27.	**ă hât**	Kambangeriu.
28.	**n–hat**	Aneityum.
29.	**hăd**	Bauung, Ngamat'
30.	**hŏt**	Lihir.
31.	**patu**	Solomon Islands.
32.	**pátĕ**	Bilibili.
33.	**pato**	Manám.
34.	**pat**	Moánus.
35.	**ne–pat**	Aneityum.
36.	**păt**	Graget, Mouk.
37.	**pat'**	Kopar.
38.	**patñ**	Barriai.
39.	**pă**	Dallmannhafen, Graget.
40.	**pa**	Muschu.
41.	**bátu**	Alu, Awa.
42.	**yat**	Kung.
43.	**at**	Sissano, Arop, Tsoi, Nokon.
44.	**at'**	Tobadi.
45.	**fa'u**	Fagani.
46.	**fau**	Mekeo.
47.	**vau**	Hula, Keapara.
48.	**veu**	Mugula, Suau.
49.	**hau**	Saa.
50.	**hoi–hau**	Ulawa.
51.	**bau**	Galoma.
52.	**daku**	Kiriwina.
53.	**gaku**	Kiriwina.
54.	**vakuna**	Kabadi.
55.	**veku**	Tubetube.
56.	**weku**	Sariba.
57.	**pak**	Brierly Island.
58.	**kat**	Limba, Langanie.
59.	**gat**	Limba, Langanie.

Of the well-ordered Polynesian series only **fatu**, **hatu**, and **vatu** are established in the Melanesian languages, but we may infer the **atu** form from the occurrence (43, 44) of its immediate successors. Yet in Melanesia we have so complete a series of forms that we may carry the varieties of this stem unhesitatingly down to forms which, without such a suite of intermediaries, we should find it impossible to associate with the **fatu** source. Most of the variation in this list falls within mutation methods already quite familiar and which call for the briefest notice. Each unit of the stem is subjected to mutation. Initial **f** passes to its sonant **v** (5–17, 47–48), to the semivowel **w** (18, 19), to the aspiration **h** (20–30, 49–50), downward in the series from spirant to mute, surd **p** (31–40), sonant **b** (41, 51), to extinction (43–44) with a somewhat anomalous employment of the remote semivowel **y** in 42. The dominant vowel **a** is well preserved; we find mutation to **e** in 11–14, 48, 55–56; to **i** in 15; to **o** in 9, 10, 30. The mutations of **t** are so critical in establishing the continuity of the series that particular attention must be given to the support of each instance encountered. The facile movement from surd to sonant **d** is found only in 29 **hăd**. The mutation **t–s** is found in 4 **fas** derived from the extra-limital Micronesian Caroline Islands. This mutation is, however, well established in Polynesia and in Melanesia and will pass muster here. The mutation **t–r** (16–17) is not found in Polynesian; its

existence has not been firmly established in Melanesia (The Polynesian Wanderings, 302); the most that we may venture is to propose this identification as not without some ground. The **t–k** which has had such a compelling sweep over Polynesia is less marked in the Melanesian tongues, yet its existence has been satisfactorily established. So far, then, as relates to this unit of variety in items 52–57, we need have no doubt, although in other particulars these are the most obscure of all the **fatu** derivatives. The extinction of **t**, of equally compelling sweep in Polynesia as is its kappation, is less frequent in Melanesia, but it has been proved in a sufficient number of instances; this enables us to include items 45–51 in the series without hesitation. The final vowel is frequently abraded after the common custom of many of these languages in order to produce the closed stem which seems more cordial to Melanesian enunciation. We find the mutation **u–o** in 11 and 33, **u–e** in 32, for both of which there is abundant confirmation. At the end of the list (52–59) I have set a small group of forms which are in varying degrees doubtful. In 57 **pak** we shall have little hesitation in hanging the form by kappation on 34 **pat**, concerning whose affiliation with **fatu** there can be no doubt. In the group of consimilars 54–56 I am sure that we are justified in finding a valid derivation; omitting the added syllable in **vaku-na** we shall find in kappation a good derivation from **vatu** and this once established 55 and 56 swing into line. The Kiriwina forms 52 **daku** and 53 **gaku** are very difficult. If 53 be established as a **fatu** derivative it is apparent that 58 and 59 follow as easy corollaries. Although in the "Polynesian Wanderings" I have noted a few and very doubtful instances in which the mutation **f–d, f–g** slightly suggests itself, I can not accept it. If we were to assume for these forms a mutant **batu** stem, we might be led aside to consider a progression of mutes, a principle well established in other language families; but in these isolating languages such a progression is not to be considered for a moment, for mutation here is narrowly restricted to the possibilities of each speech organ and does not pass to any other, save for the very modern movement of interserial mutation in the nasals and the mutes which has not yet been established beyond the palatals and the linguals.

18*a*. **bei** flying fox.

REFERENCE: Deutsch-Neuguinea, 201: 19.

POLYNESIAN.

peka	Futuna, Niuē, Rarotonga, Mangaia.	**pe'a**	Samoa.
pekapeka	Maori.	**opeapea**	Hawaii.
		beka	Sikaiana, Viti, Tonga.

MELANESIAN.

1. **bĕkă**	Kowamerara, Namatanai, Namarodu, Lalinau, Bisapu, Punam.	5. **bianga**	Barriai.
		6. **bēk**	Nokon.
		7. **mi mbĕk**	Tatau.
2. **mi mbĕka**	Kowamerara.	8. **a mbiák**	Lihir.
3. **bĕgă**	Vitu.	9. **bea**	Wuvulu, Aua.
4. **bege**	Belik.	10. **bĕi**	Sēr, Sissano.

Little need detain us in the Melanesian series, for the mutations are almost all of familiar types. The k–ng mutation in 5 **bianga** is of frequent occurrence. In this form and in 8 **mbiak** we find the stem **e** reproduced by **ia**, in which we detect a slight suggestion of semivowel introduction of the principal vowel. This treatment is rare in Melanesia, but it is found as a distinctive character of the speech of Volow in the northern New Hebrides, concerning which Codrington notes: "It is characterized by the introduction of **e** before **a** and **i** before **e** in a close syllable; this latter peculiarity is not heard in the mouths of all the people, but it is characteristic." (Melanesian Languages, 322.) A Volow instance has been recorded at item 12 of the list of 12 at preceding. The incorporation of this stem in the present work rests upon the Sēr-Sissano **béi**, an imperfect form; yet as the **a–i** mutation occurs in the final and unaccented syllable and is supported by frequent similar instances in the Melanesian languages, we may regard the identification as sufficiently satisfactory.

24. **bor** boat without outrigger.

1. **por** Sēr, Malol.
2. **bŏr** Sissano.
3. **bŭr** Sissano, Arop.
4. **bul** Murapá, Tsoi, Käwiëng.
5. **bil** Dyaul, Lemusmus, Panemego.
6. **vul** Kung.

The series runs only through this northern New Guinea region and with sense modification into New Hanover. In the Sissano lagoons the object designated is distinctly the pirogue and not the outrigger; in 4 and 6 it is the outrigger boat; and in 5 it is boat without any distinction stated.

26. **bul** moon.

REFERENCES: Melanesische Wanderstrasse, 117: 98. Ray, 494: 88. Turner, 354. Codrington, 47: 41. Polynesian Wanderings, 329. Subanu, 141.

POLYNESIAN.

pupula Niuē.
vula Viti.
hula, hual Rotumā.

MELANESIAN.

1. **pulan** Chamorro.
2. **pula** Wuvulu, Aua.
3. **pul** Paluan, Lou, Umre, Leut, Uap.
4. **pura** Angadi, Mimika.
5. **puna** Wuvulu, Aua.
6. **bura** Lakahia.
7. **bulo** Uni.
8. **buia** Uni.
9. **bul** Sēr, Sissano.
10. **mbul** Moánus.
11. **bŏl** Pāk, Leng.
12. **bue** Hula, Keapara, Galoma.
13. **bu** Arop.
14. **furan** Lobo, Mairassis.
15. **fúlŭn** Sali, Lemakot.
16. **fúlĕn** Lauan, Nonapai, Lakurefanga.
17. **flĕn** Lochagon, Nemassalang, Lakurumau, Munuwai, Fezoa, Lawu.
18. **fulé** Graget.
19. **ful** Saran.
20. **vula** Pokau, Marina, Arag, Mota, Vaturanga, Nggela, Bugotu, Belaga.
21. **mi vurá** Kowamerara.
22. **vule** Omba.
23. **vuia** Pokau.
24. **vul** Merlav, Gog, Lakon.
25. **vol** Mosin.
26. **hura** Wango.
27. **húlĕn** Lemusmus.
28. **ă hŭlén** Lihir.
29. **huia** Doura.

30. **hua** Motu.
31. **wuran** Namatote.
32. **wula** Maewo.
33. **wol** Vuras, Motlav, Volow, Mosin.
34. **wui** Rubi.
35. **uran** Utanata, Karufa.
36. **úlăng** Nayama-Panaras.
37. **úlĕn** Bauung, Ngamat, Bagail, Majum, Lossuk, Avelus, Mongai.
38. **ulén** Kung, Tsoi.
39. **úlĭn** Limba, Langanie.
40. **mi úra** Tatau.
41. **ola** Ambrym.
42. **ĕ ngólĭng** Tegarot.

The Polynesian series is of much greater extent than is here offered, but in the main the use of the stem in designation of the moon has yielded to the later term **masina.** The basic signification of the stem **fulan** is that of shining or emitting a bright light. This theme will be found discussed at length in "The Polynesian Wanderings" and needs no attention in this place. In the Melanesian series the sense is wholly that of the moon as the shining body. The final consonant remains in 1, 14–17, 27, 28, 31, 35, 37–39, and with a facile mutation to **ng** in 36 and possibly in 42. The initial consonant runs the whole series of possible mutations in the labial series. The **u** vowel is remarkably permanent; we find mutation to **o** in 11, 25, 33, 41, and possibly in 42; in 17 **fiĕn** we assume its extinction, a most unusual case involving the bringing together of two consonants. The second consonant exhibits great persistence as l–r; in 13 **bu** it has finished by final abrasion from 9 **bul**; in 12 **bue**, and in 30 **hua**, and in 34 **wui** it has somewhat anomalously dropped out from between the two vowels and the loss is not to be explained as a final abrasion. In 8 **buia**, in 23 **vuia**, and in 29 **huia** we find in a restricted group of languages in Papua reported by Ray the mutation l–i; this is rare in all the material which we have set under review in other and more comprehensive work upon these tongues, but the principle is by no means unfamiliar in modern European languages. The changes which the second vowel undergoes offer nothing of note. In 42 we have **ngoling**, a form of doubtful association with this stem. We could give it room without difficulty if it were possible to comprehend a mutation **p–ng**; we do not find this exactly, but the precisely similar **f–ng** seems to be involved in the case of (Polynesian Wanderings, 271)—

Samoan **fia** Vaturanga **ngisa** Nggao **ngiha**

It is therefore possible to admit this form.

37. **daman** father.

REFERENCES: Melanesische Wanderstrasse, 141: 158. Ray, 488: 46. Polynesian Wanderings, 272. Subanu, 144.

POLYNESIAN.

tamā Samoa, Fakaofo.
tama Aniwa, Viti.
tamai Tonga, Uvea.
tamana Futuna, Sikaiana, Fotuna, Nguria, Nukuoro.
taman Kapingamarangi.

MELANESIAN.

1.	**tama**	Efaté, Mota, Duke of York, Buka, Baravon, Nggela, Laur, King, Sesake, Malo, Bierian, Tangoan Santo, Arag, Vaturanga, Bugotu, Motu, Sinaugoro, Rubi, Suau, Sariba, Tubetube, Panaieti, Misima, Nada, Murua, Kiriwina, Dobu, Mukawa, Kubiri, Raqa, Kiviri, Barriai, Kobe, Jabim.
2.	**tamà**	Pala.
3.	**tamaa**	Redscar Bay (N. G.).
4.	**tama-ge**	Kilenge, Maleu.
5.	**tâma-gn**	Barriai.
6.	**tamai**	Mota.
7.	**tamam**	Manám.
8.	**tame**	Oiun.
9.	**tema**	Efaté.
10.	**etma**	Aneityum.
11.	**temi**	Eromanga.
12.	**tima**	Santo.
13.	**timi(n)**	Tannà.
14.	**tumai**	Nifilole.
15.	**daman**	Subanu.
16.	**dama**	Jabim, Bukaua, Tami.
17.	**hama**	Roro.
18.	**'ama**	Ulawa, Wango, Uni.
19.	**ama**	Saa, Bululaha, Wagawaga, Mekeo, Hula, Keapara, Galoma, Tavara, Awalama, Taupota, Wedau.
20.	**wama**	Fagani.
21.	**kama**	Pokau, Doura.
22.	**rama**	Tagula.
23.	**karama**	Baki.
24.	**tata**	Malekula, Tangoan Santo.
25.	**chacha**	Nengone.
26.	**dada**	Raqa.
27.	**ma**	Nggao, Lo.
28.	**mama**	Mota, Omba, Gog, Alite, New Georgia, Koita, Motu.
29.	**mamai**	Boniki, Galavi.
30.	**mam**	Merlav, Lakon, Pak, Sasar, Vuras, Mosin, Alo Teqel, Motlav, Volow, Norbarbar, Rumba.
31.	**nam**	Panaieti, Misima.

Through 19 items of variant forms this orderly series is convincing, for the mutations are of the most frequent and best-established types. In 10 **etma** we have no difficulty in noting the influence of metathesis upon the next preceding form. The aspirated form 17 **hama** is not extraserial mutation, for I have already established that the aspiration is triple, at least in its incidence, and that an aspiration lies proximate to each consonantal series. Particular interest attaches to 20 **wama.** This is found within a group of languages which have attained the **ama** form by the method of frontal abrasion. It seems that the **w** in **wama** represents the stage of transition between an initial **t** and its extinction, a ghost of a remembrance that there was originally some sort of consonant there, a function which may well be performed by the obscure semivowel **w.** We may interpret 21 **kama** in terms of the kappation of **t,** which is so frequent in eastern regions of the Pacific. The mutation **t–r** is sufficiently well established to account for 22 **rama.** This may serve to establish 23 **karama,** in which the form occurs with some sort of prefix; though the two points are widely separated, they are, in my interpretation of migration movement, associable as ports along the Viti Stream from Indonesia to Melanesia by way of Torres Straits. A group of three forms, 24–26, seems to involve the abrasion of the final syllable of **tama** and the duplication of the former; those linguists of a school not yet wholly inactive, who seek to find the origin of infant speech in instinct, might employ the argument from **dada,** which our infants share with the savages of Raqa, except for the fact that this same series shows in 28 **mama** a far more extended employment of a name for father which in the infancy

of Europeans is devoted to the other parent. In this next group 27 **ma** follows readily upon 19, undergoes duplication to produce 28, in 29 receives the same addition that appears in Polynesia and in 6 and 14, then by final abrasion becomes 30 **mam.** The passage from **mam** to **nam** involves a mutation which is infrequent, yet which has been observed in other of these studies. (See page 133.)

31. **dopún** egg.

REFERENCE: Melanesische Wanderstrasse, 37*a*, 86*a*.

1. **tipóng** Sĕr.

This is the only cognate which appears in these records, two forms of vocable found only in the Sissano lagoons and of uncertain source.

34. **el** stone ax.

REFERENCE: Melanesische Wanderstrasse, 77*b*.

1.	**el**	Sissano.	10.	**giro**	Keapara.
2.	**iere**	Jotafa.	11.	**gilo**	Galoma.
3.	**yĕr**	Paup, Yakomul.	12.	**kilokile**	Bugotu.
4.	**iém**	Sali.	13.	**ira**	Motu, Kabadi, San Cristoval.
5.	**íĕm**	Lauan.	14.	**ilama**	Suau.
6.	**aiyĕm**	Lemakot, Lakurumau, Panangai.	15.	**irán**	Nissan.
			16.	**ari**	Barriai.
7.	**ă ríăm**	Gazelle Peninsula.	17.	**kímă**	Limba.
8.	**kíĕm**	Majum.	18.	**bărĕ**	Wogeo.
9.	**gila**	Ngela.			

Lacking cognates in Polynesia and Indonesia, we are scantily able to trace out what unity of stem may be supposed to exist in this series. The items 1–3 are clearly enough a single stem; another is seen in 4–8; yet a third, much wider in extent, in 9–15. The Barriai **ari** may through metathesis devolve from 13; probably in that case 18 **bărĕ** may find association therewith. Likewise 17 **kímă** is closely allied with 8 **kíĕm.** On such scanty material it would be unwise to seek to establish stem unity. Yet I must point out that in 1–3, 7, 9–16, and 18 we find either **e**(i) **r** (l) or **re**(i); that from 7, in which the **ri** appears, we find a consistent suite in 6–4–5–8. If, then, all these forms are reducible to the two types **er** and **ri** it will involve no great difficulty to establish the possibility of the interchangeability of the two stem elements, or rather their passage by two channels from a common source. It is by no means improbable that this stem is associable with 88 **sel** stone. Color is lent to this view by the fact that the metonymy of designating an article by its component material is much anterior to the systems of formal rhetoric. To denominate this type of club as the stone finds a parallel in nuclear Polynesia where club names are as various in their forms, yet it is perfectly permissible to use the term **lakau** wood. In the savagery which persists into our own militancy, the expression "cold steel" instances the case in point.

45. kālúk wooden pillow.

REFERENCES: Melanesische Wanderstrasse, 109: 81. Deutsch-Neuguinea, 209: 87. Polynesian Wanderings, 241.

POLYNESIAN.

alunga	Samoa.	**uluna**	Hawaii.
aruna	Nuguria.	**urua**	Tahiti.
olunga	Tonga.	**turua**	Tahiti, Marquesas.
urunga	Maori, Rarotonga, Mangareva.	**rurunga**	Paumotu.
ulunga	Futuna, Uvea, Niuē.	**rangua**	Rapanui.

MELANESIAN.

1. **nă kúlŭngă**	Kilenge.	15. **ŏlăngŏn**	Lakurumau.
2. **năkúlŭngă**	Barriai.	16. **ŏlănă**	Hamatana.
3. **gulúngĕn**	Lauan, Nonapai, Lakurefanga.	17. **ŏlĭngĕn**	Lawu.
4. **gulŭngún**	Lauan, Nonapai, Lakurefanga.	18. **ŏlŭngĕn**	Panagai.
5. **kālúk**	Sissano, Arop, Yakomul, Dakur, Put, Kumenim.	19. **úlĭngen**	Panaras.
6. **kălúk**	Paup.	20. **ulunga**	Mota Veverau.
7. **kălúkĕ**	Kaip.	21. **ulúngĕn**	Avelus, Lossuk.
8. **kálĭk**	Bilibili.	22. **úlŭngĕn**	Bagail, Majum, Mongai, Sali, Lemakot.
9. **kalika**	Bogadjim.	23. **úlŭngĭn**	Fezoa.
10. **kōlu**	Vrinágol, Tsinapäli, Akur.	24. **uilinga**	Ponape.
11. **alúga**	Manám.	25. **ŭílănă**	Hanahán.
12. **ălók**	Tumleo.	26. **ulumwa**	Efaté.
13. **ilinga**	Mota Maligo.	27. **unua**	Dufaure Island.
14. **ŏlăngĕn**	Munuwai, Lochagon, Nemassalang.	28. **luluna**	Wuvulu, Aua.
		29. **lúlă**	Limba, Langanie.
		30. **pŭlŭngĕn**	Lamassa.
		31. **vătlúngĕn**	Tegarot.

The technical question is well discussed by Friederici in his "Melanesische Wanderstrasse," as cited above. In Samoa, where we have abundant material wherewith to study the vocabulary of the elder or Proto-Samoan migration and the junior or Tongafiti swarm, we find **alunga** used of the soft pillow or roll of siapo and (k)**'ali** of the wooden headrest. In the examination of this Melanesian series we shall find the point at which these two now diverse terms unite in a common stem. In the Polynesian series we may follow a series from **alunga** to **urua** which involves none but familiar mutations; to this series belongs Rapanui **rangua**, as explained in detail *sub voce* in "Easter Island." In Tahiti **turua** and Paumotu **rurunga** we see the impulse to preface the **alunga** stem with some consonant. In the similarly prefaced forms in Melanesia we have no instance of a prefaced **t**, but the Paumotu **rurunga** is immediately paralleled by 29 **luluna**. In the examination of the prefaces in Melanesia we find a consistent series through the first 10 items in which the palatal is used, **k** 8 times, the sonant **g** twice. This series of prefaced forms has particular importance in establishing the stem unity of **alunga** and **'ali**. From 1 **kúlŭngă** under the interplay of vowels which freely characterizes this stem, together with the common and serial **ng–k** mutation, the first step leads us to 7 **kaluke**, the next by added vowel change to 9 **kalika**, the next to 8 **kalĭk**; from this point abrasion of the final consonant yields **kali**, which has not yet been discovered in Melanesian material but is suggested by 10 **kōlu**; **kali** is

a form in use in Viti and the loss of the k characterizes modern Samoan, and thus we arrive at ʻali without a break in the chain.

Following the study of the prefaced forms, we find two which are somewhat anomalous, 30 **pŭlŭngén** and 31 **vătlúngĕn** The latter seems to be a compaction of **vat**, a word-stem of sense not yet determined, and the remnant of 21 **ulúngĕn** after frontal abrasion. But the **p** preface in **pŭlŭngén** offers an interesting suggestion. In Paumotu **rurunga**, 28 **luluna**, and 29 **lula** we find a group of liquid prefaces. But in 3 **gulúngen**, and 1 **kúlŭngă**, in Tahiti **turua**, in 30 **pŭlŭngén**, we find a complete series of mute prefaces, palatal **g–k**, lingual **t**, labial **p**. We have already pointed out another series of mutation which suggests progression of the mutes. In the isolating languages of the Pacific we can establish no such simple rule as the Grimm's law of the inflected tongues of the Indo-European family, but we shall find a great interest in the few, perhaps fortuitous, instances in which we may trace the beginnings of such a system. It serves here to set against this apparent suggestion of mute progression that the method of mutation normal to these isolating languages is most distinctly serial and that no frequency of interserial mutation is discovered save among the nasals, and that only partially.

In the Polynesian series we find an **a–o–u** range of the initial vowel, but with a considerable preponderance of **u**. The same inclination holds in Melanesian; we have 17 forms in **u**, 7 in **a**, 6 in **o**, and a single instance of **i** in 13 **ilinga**, a vowel which does not appear at all in the Polynesian series. Two widely separated forms of close resemblance are 24 **uilinga** of the central Carolines and therefore properly Micronesian, and 25 **ŭílănă** of the northern Solomons. I have provisionally counted these among the **u** forms, but there seems reason to assign them to the **i** group. The ictus in **ŭílănă** suggests that the preceding **u** has value as compensatory for the loss of a vanishing consonant, a suggestion which I have advanced in the discussion of 39 **eanua** in item 8, and 20 **wama** in item 27. The stem **l** retains its character throughout Melanesia, with the single exception of 27 **unua**, and this **l–n** mutation is quite common and involves but the slightest possible movement in progress of the lingual possibilities. The second stem vowel remains **u** without change in the Polynesian series after resolving the metathesis of Rapanui **rangua**, and is constant through 19 Melanesian forms. It passes to **a** in 14–16 and 25, a group of closely related languages; 29 **lúlă** is probably of this **a** series, but the form is so much reduced below critical character that we include it only on tolerance. It is represented by **o** in but one form 12 **ălók**. The passage to **i** possesses great critical importance for us in the establishment of the unity of **alunga** and ʻ**ali**; we find it in 8, 9, 13, 17, 19, and 24. The mutation undergone by the **ng** element is typical of Oceanic speech; it passes to **k** in 5–9 and 12, to **g** in 11, to **n** interserially in 16, 25, and 28, and to

extinction in 10, 27, and probably in 29. The mutation to mw in 26 úlumwa is local to Efaté and is susceptible of explanation in the slight command of the lips in speech which has been attained by that singularly backward folk. The final a is retained unmodified in all Polynesian and in 12 of the Melanesian items; it is obliterated to produce a resultant closed vocable in 5, 6, 8, and 12, and in complete excision of the final syllable in 10 and 29; it passes to e in 7. Its greatest modification in Melanesia is harmonious *inter se* but anomalous in the series of phonetic changes. This consists in the assumption of a final n accompanied by vowel modification. If this n were regarded as pertaining to an archetypal stem we should expect to find its retention in other than this specific form; such, however, is not the case, and it is noteworthy that we have no evidence of what should be the simplest case of its employment, for alunga–n does not occur and the assumed n invariably is accompanied by modification of the vowel. The forms met with are predominantly of the en type, in 3, 14, 17–19, 21–22, 30–31, once each in in in 23, in on in 15, in un in 4. It does not appear that this modification of the final vowel under the addition of n extends its influence to the next preceding vowel, for we find final en with preceding u in 3, 18, 21–22, final un with preceding u in 4, final in with preceding u in 23, final en with preceding a in 14, final on with preceding a in 15, final en with preceding i in 17 and 19.

52. lĕpí sago.

REFERENCES: Melanesische Wanderstrasse, 125: 122. Deutsch-Neuguinea, 231: 148. Ray, 406: 109; 497: 109.

POLYNESIAN.

pia	Samoa, Niuē, Maori, Sikaiana, Marquesas, Mangareva.	**biebia**	Tonga.
piapia	Tahiti, Futuna.	**yambia**	Viti.

MELANESIAN.

1.	**rapia**	Keapara, Kabadi, Suau.
2.	**rapiana**	Kabadi.
3.	**rabia**	Motu, Doura, Hula, Sariba, Panaieti, Murua, Dobu, Wedau.
4.	**lapia**	Galoma.
5.	**lăbĭă**	Nakanai, Sinaugoro, Misima.
6.	**yabia**	Musa, Tagula, Kiriwina.
7.	**iabia**	Manukolu.
8.	**lebia**	Nada.
9.	**leiba**	Rubi.
10.	**rabi**	Koiari, Koita.
11.	**răpí**	Yakomul.
12.	**răpích**	Paup.
13.	**lăbi**	Jabim.
14.	**lambi**	Tami.
15.	**lăpí**	Arop, Malol.
16.	**lapích**	Tumleo.
17.	**lepí**	Sēr, Sissano.
18.	**iabi**	Mulaha.
19.	**ăbi**	Paluan, Pāk.
20.	**ĕbí**	Lou.
21.	**ápi**	Mouk.
22.	**bia**	Shortland Islands.
23.	**bíă**	Alu, Awa, Belik, Bisapu, Punam.
24.	**ă mbíă**	Namatanai, Lalinau.
25.	**piapia**	Ngela.
26.	**vĭătŏvŏ**	Burruwe.
27.	**vŭătahó**	Hamatana.
28.	**vŭătó**	Petat.
29.	**ngovía**	New Hanover.
30.	**ngávĭĕ**	Bauung, Ngamat.
31.	**bariam**	Nufoor.
32.	**barao**	Luf.
33.	**baleo**	Pokau.
34.	**bayau**	Maisin.
35.	**baiyau**	Musa.
36.	**pareho**	Roro.

The sense in this series of forms is conditioned by the geographical extent of the sago palm. In Viti its existence was not economically

recognized until Dr. Seemann discovered it in Viti Levu.* It does not become a source of food until we pass through Melanesia almost to New Guinea. The word, however, exists in Polynesia, as shown by the series here set forth, and it is applied to the arrowroot. This gives ground for the interpretation of the element pia as descriptive of some quality which is equally true of the arrowroot and of the pith of the sago palm. The most distinctive common quality, which would appeal to the savage mind as a quality worthy to serve for descriptive designation, is that each exists in the form of a sticky paste and that each in the process of preparation gives off an abundant waste of feculence which in those warm lands speedily undergoes an offensive corruption. That the sense of pia lies somewhere in these characters is inferable from the fact that in Maori it denotes the gum exuding from trees; in Tahiti the gum of the banana blossom, blood clot, and the lochia; in Moriori diarrhea; and in Tongan it expresses the sense of purulence. In the more-developed forms of the name of sago in Indonesia and the New Guinea region we shall do well to bear in mind that these are compactions of some general noun qualified by the character expressed by pia. The Melanesian series has been so ordered as to show a course of devolution from a certain standard form regarded as a compaction in the beginning and then treated as an established unit. This series extends through the first 21 items with satisfactory continuity. The working stem here is ra-pia, in which the initial consonant follows common mutations through l and a semivowel to extinction in 19–21. In 6 and 7 we have the Viti form and in 18 a devolution form by final abrasion. If 9 leiba is not a printer's error in Ray's report, it is readily comprehensible as metathetic upon 8 leiba. In 10–11, 13–15, 17–18 we find the immediately succeeding type of rabia after final abrasion, and in 12 and 16 we find a pair of forms of this abraded type which have picked up a new final in the palatal ch. In 19–21 we find this abraded type still more reduced by the not infrequent frontal abrasion. In the group 22–30 we begin with the simple bia stem which extends in the series to 25 piapia, a duplication form which occurs in Tahiti and Futuna. In 29 and 30 we have a parallel of rapia in which via-vie, a simple variant of pia, is applied in the descriptive position to a stem nga-ngo; it does not seem likely that nga can be associated with ra, though there do exist instances of the r–ng mutation. In 26–29 we have a group in which an unmistakable pia derivative is defined by the addition of three several stages of a stem as to whose signification we have no clue. Friederici cites Ray as suggesting metathesis as operative in the case of 34–35. It may be applicable to the whole series 31–36. Taking a start in 31 bariam and comparing the assumption of final m with the syllable assumed in 2 rapiana, we can readily see how mechanically baria is metathetic

*Seemann "A Mission to Viti," 291.

upon **rabia**. That once granted, it is simple evolution in form to account for the remainder of the series. But while the metathesis is mechanically possible, there is grave reason to doubt its feasibility in another and most important regard. We have seen that **ra–bia** is a compaction of a noun and a descriptive modifier. In these languages, while such compaction is easy and tends to assume a certain degree of permanence, it is scarcely comprehensible that the component words can so far have lost their individuality as to suffer metathesis from one word unit to the other destructive of each. We may illustrate this in English: "dun cow" is a similar association, though not compaction, of noun and descriptive modifier; metathesis would produce "cun dow," which might pass muster as a Spoonerism, but which certainly wrecks the sense of each word.

55. **măl** perineal band.

REFERENCES: Melanesische Wanderstrasse, 114: 93. Deutsch-Neuguinea, 208*a*.

POLYNESIAN.

malo Samoa, Viti, Futuna, Niuē, Hawaii. | **maro** Atiu, Maori, Tahiti, Mangaia, Mangareva, Rapanui.

MELANESIAN.

1. **malo** Mota, Barriai, Kobe, Omba. Wogeo, Manám.
2. **mălomălo** Pororan, Petat, Omba.
3. **mărŏ** Anuda.
4. **maiu** Tsinapäli. Akur, Vrinágol, Kait.
5. **măl** Arop, Sissano, Paup, Yakomul, Karkar, Siar, Saran, Graget, Bilibili, Langtub, Aweleng, Amgä, Mait, Namarodu, Punam, Suralil, Pororan, Petat, Malol, Keule, Siassi. (Waigiou: **mar**; Nufoor: **maar**.)
6. **mŏl** Tumleo, Manikam.
7. **mel** Bogadjim.
8. **múol** Tumleo.

The study of this series of Melanesian designations for the important article of male attire is complicated by the fact, which Friederici points out, that in most of the communities here recorded the men went wholly nude until quite recent times. Their earliest contact with a type of culture slightly above their own was in the introduction of mission endeavor, and in this the pioneers were largely Samoan teachers. Thus was provided a channel for the introduction along with the new garb of its Samoan name **malo**. At the same time there is reason to determine that at least some Melanesian communities had vocables of this stem from their remote antiquity. The mutation in this series offers little upon which to comment, for all the alterations are of the most familiar type.

56. **man** bird.

REFERENCES: Melanesische Wanderstrasse, 71: 160, 142*b*. Deutsch-Neuguinea, 192. Ray, 392: 11, 483: 11. Codrington, 39: 5. Subanu, 132. Polynesian Wanderings, 372.

POLYNESIAN.

manu Samoa, Tonga, Tahiti, Mangareva, Rarotonga, Mangaia, Futuna, Niuē, Uvea, Fotuna, Bukabuka, Maori, Hawaii, Nuguria, Rapanui, Marquesas, Paumotu, Viti, Tongarewa, Kapingamarangi.
manman Rotumā.

MELANESIAN.

1.	manuk	New Ireland (Carteret Harbor).
2.	manug	Tanna.
3.	manu	Kobe, Kelana, Vitu, Bauung, Ngamat, Lauan, Nonapai, Lakurefanga, Sali, Lemakot, Lemusmus, Panangai, Domaru, Mailu, Motu, Pokau, Kabadi, Sinaugoro, Hula, Keapara, Galoma, Rubi, Suau, Nada, Awalama, Taupota, Mukawa, Efaté, Sesake, Epi, Bierian, Maewo, Mota, Ulawa, Wango, Bululaha, Fagani, Saa, Arag, Omba, Vaturanga, Bugotu, Nggela, Nguna, Ruavatu, Ugi, Belaga.
4.	manua	Kiriwina, Dobu.
5.	manúaĭ	Mouk, Moánus.
6.	manuwai	Leng.
7.	mánŭĭ	Bagail, Majum.
8.	mánuwu	Burruwe, Iapa.
9.	malu	Alite.
10.	man	Barriai, Siassi, Tami, Rook, Arop, Sissano, Wogeo, Limba, Langanie, Bissapu, Punam, Tubetube, Murua, Pala, Laur, Merlav, Mota, Norbarbar, Gog, Vura, Mosin, Gilberts.
11.	in-man	Aneityum.
12.	na-man	Makura.
13.	maan	Brierly Island.
14.	mang	Manám.
15.	main	Sēr.
16.	mánĕ	Mongai.
17.	máni	Tsoi, Lossuk, Lawu, Munuwai, Lochagon, Nemassalang, Fezoa, Kondo, Yalui, Lamassa, Lambom, Tubetube.
18.	mănĭmánĭ	Avelus.
19.	manumanu	Uni.
20.	menu	Baki, West Epi.
21.	menok	Eromanga.
22.	men	Pak, Motlav, Norbarbar, Sasar, Volow.
23.	méăn méăn	Tumleo.
24.	ni-min	Malekula.
25.	mien	Paup, Yakomul.
26.	mon	Kilenge, Vanua Lava, Lo, Alo Teqel, Retan,
27.	mŏnmŏn	Paluan, Lou.
28.	ma	Bukaua, Graget, Kowamerara, Sigab, Simberi, Tagula.
29.	mah	Lakon.
30.	mo	Jabim.
31.	mamu	Kubiri, Raqa, Oiun.
32.	nanu	Marina.

The zoological content of this vocable has been sufficiently studied in The Polynesian Wanderings (page 372). It serves to designate all animated creatures which have not been specifically named, and for the most part this applies to those beings whose habitat is on the earth or in the air, for we find very few examples of its extension to animals of the waters. In our Melanesian material the word is defined almost wholly as bird, but it is altogether likely that riper acquaintance with these languages will show that **manu** has been also the wider connotation. When we examine the Indonesian contributions to the record of this stem we shall have to note the characteristic final palatal. Owing to the genius of the Polynesian languages this final consonant is prevented from appearing, but in this Melanesian series the **manuk** form is singularly absent; it occurs but three times, **manug** and 21 **menok** in southern Melanesia, 1 **manuk** on no particularly good authority in the eastern Bismarck Archipelago. We should expect it to be more frequent in the New Guinea region as nearer the great extent of the form in Indonesia. We note, however, from this region in the items 4–8 a tendency toward expansion of **manu** through vowel additions which may be taken to suggest some relation to the Indonesian forms.

In general we find a smooth succession of simple mutation forms, the change principally affecting the former vowel of the stem and retaining the **m–n** consonant pair unaffected. The mutations of the **n**, omitting reference to its excision as shown in 28–30, are the following: to **l** in 9, to **ng** in 14, and to **m** in 31. The **m** remains unaltered except in 32 **nanu**. The two forms 31 **mamu** and 32 **nanu**, though widely separated geographically, are associable in mutation mechanics; the mutation is interserial, lingual to labial and labial to lingual respectively, and is abundantly supported in each direction.

56*a*. **man băl** Ptilopus pigeon.

REFERENCES: Melanesische Wanderstrasse, 138: 149. Deutsch-Neuguinea, 201.

1.	**bálŭs**	Lauan, Lalinau, Punam, Namarodu, Kait, Lamassa, Bauung, Laur, Lambell, King, Ngamat, Bagail, Majum, Lossuk, Fezoa, Lakurumau, Lawu, Panangai, Munuwai, Lochagon, Nemassalang, Lauan, Nonapai, Lakurefanga.
2.	**bălúsi**	Jabim.
3.	**bálĭs**	New Hanover, Limba, Langanie.
4.	**ĕ mbálĭs**	Tegarot.
5.	**mbalut**	Tami.
6.	**mbāluz**	Mantok, Siassi.
7.	**balu**	Wuvulu, Aua.
8.	**ă bălu**	Gazelle Peninsula.
9.	**mbálu**	Kobe, Vitu, Baravon.
10.	**ămbălu**	Matupí.
11.	**bărŏ**	Marei, Simberi.
12.	**mi mbŏru**	Tatau.
13.	**mi mbáru**	Kowamerara.
14.	**bāólŭ**	Alu.
15.	**bola**	Nggela.
16.	**bal**	Ninigo, Limba, Langanie.
17.	**ă mbăl**	Tanga.
18.	**mbal mbal**	Kaimanga, Rook.
19.	**băl-răhé**	Yakomul.
20.	**măn-băl**	Sissano.
21.	**abol**	Kilenge.
22.	**bŭl**	Pāk.
23.	**mbun**	Rook.
24.	**bălús**	Pire, Bisapu, Jabim, Palabong.
25.	**ăm bălús**	Lihir.
26.	**bălú**	Nissan.
27.	**mbălŭs**	Suralil.
28.	**bălŭs**	Palabong.
29.	**bareng**	Nasioi.
30.	**bărŭdn̄**	Barriai.
31.	**mímbĭel**	Paup.
32.	**pălúsi**	Jabim.
33.	**palŭsío**	Bukaua.
34.	**paluch**	Ponape.
35.	**palu**	Wuvulu, Aua.
36.	**padlú**	Wuvulu, Aua.
37.	**pale**	Ambrym.
38.	**pal**	Ninigo.
39.	**maim-pail**	Sēr.
40.	**mím-píel**	Paup.
41.	**pŏl**	Paluan, Leut, Lou.
42.	**măn-púli**	Arop.
43.	**válŭs**	Mongai, Lauan, Nonapai, Lakurefanga, Sali, Lemakot.
44.	**vólŭs**	Avelus.

Except for the items 14, 15, 29, 34, and 37 this series is restricted to the Bismarck Archipelago and Kaiser-Wilhelmsland. The lacuna in Torres Straits and through Melanesia is due to the paucity of our material outside of the collections of Ray and Codrington, neither of whom included this bird-name in their comparative lists. The list deserves preservation here because we shall have occasion to discuss its Indonesian affiliates. The series exhibits the brutality of the treatment which is bestowed upon their languages by these beginners in speech. Yet it is possible to trace out the thread of common origin when the various forms are thus ordered upon the attention. We may neglect the particular consideration of the several mutations, which for the present are curious rather than important.

61. natu child.

REFERENCES: Melanesische Wanderstrasse, 107*a*. Ray, 485: 25. Polynesian Wanderings, 198.

POLYNESIAN.

nati Tahiti.
ngati Maori, Mangaia, Paumotu.
ati Samoa, Maori, Tahiti, Mangareva, Marquesas.
etu Rapanui.

MELANESIAN.

1.	**nâtu**	Tobadi, Sissano, Lihir, Laur, Nokon, Gazelle Peninsula, Bissapu.	10.	**netin**	Malekula.
2.	**natu**	Tami, Szeak-Bagili, Alu, Awa, Barriai, Motu, Sinaugoro, Suau, Sariba, Tubetube, Panaieti, Dobu, Tavara, Awalama, Taupota, Wedau, Galavi, Boniki, Mukawa, Kubiri, Raqa, Kiviri, Oiun, Gog, Baravon, Lambell, Wagawaga.	11.	**netei**	Volow.
			12.	**nten**	Motlav.
			13.	**năt**	Mouk, Bauung, Ngamat, Kung, Tsoi, Lamassa, Duke of York, Pala, Moánus.
			14.	**ă năt**	Petat.
			15.	**fa-nat**	Lamassa.
			16.	**nŏt**	Paluan, Lou.
			17.	**natugi**	Omba, Mosin.
			18.	**natui**	Maewo, Mota.
			19.	**nitui**	Arag.
3.	**nătún**	Tumleo, Lakon.	20.	**notui**	Vuras.
4.	**nátŭng**	Kung.	21.	**nutu**	Efaté, King, Lamassa.
5.	**naku**	Pokau, Doura, Kabadi.	22.	**ngatu**	Manám.
6.	**nahu**	Roro, Hula.	23.	**ngaunga**	Mekeo.
7.	**nau**	Keapara, Galoma.	24.	**latu**	Jabim, Kiriwina.
8.	**nati**	Bissapu, Merlav, Efaté, Bierian, Omba, Makura.	25.	**atú**	Bukaua.
			26.	**ati**	Efaté.
9.	**anati**	Malekula.	27.	**tu**	Vitu, Matupí.

In my dictionary of Rapanui I expressed considerable doubt as to the association of **etu** with this stem. The added material placed at hand removes that objection and, far from doubting **etu**, I now regard it as an important memorial of the Proto-Samoan migration thus preserved in a distant backwater of the most remote Polynesian peopling. This comports with my belief that the origin of the swarm which peopled Easter Island was in Samoa at the time of the hostile advance of the later Tongafiti swarm out of Indonesia. Four forms in this series, 3 **nătún**, 10 **netin**, 12 **nten**, and 4 **nátŭng**, suggest a final consonant in the archetypal stem. The variety of the second vowel is important, and from the parallelism of the forms in **i** along with those in **u** it appears that the divarication must have come early in the life of the word. Forms in **u** are 1, 2, 3, 4, 5, 6, 7, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27; forms in **i** are 8, 9, 10, 26. Forms in **e**, 11 and 12, are regarded as variants upon the **i** base. The initial **n** is very constant: the **ng** mutation, a particularly common one in Oceanic languages, appears only in 22 **ngatu**, a form which parallels the Maori **ngati** variant upon the **nati** base. If 23 **ngaunga** be admitted to association with this stem, and this will need further evidence to protect a **t–ng** mutation, it will provide a second instance of **n–ng** mutation; 24 **latu** exhibits the not unfamiliar **n–l** mutation, one of peculiar interest as proving that **n** is not yet so firmly seated in consonantal value as to avoid recession to the more primitive liquid of its lingual

series. The former vowel of the stem remains **a** in a large number of items, passes to **e** in 10, 11, and by inference in 12, to **i** in 19, to **o** in 16 and 20, and to **u** in 21. The stem **t** is most permanent in character; its only variants are **k** in 5, **h** in 6, extinction in 7, and the doubtful **ng** in 23. A group of languages in the northern New Hebrides, 17–20 exhibits a suffix of **i** or **gi** which in two instances is accompanied by modification of the former stem vowel. The 10 **netin** form is valuable for its bearing upon Rapanui **etu**. Just as Maori **ngati** is represented by one of the **u** base forms in Melanesia, so contrariwise Rapanui **etu** is represented by an **i** base form.

63. **néu** coconut.

REFERENCES: Melanesische Wanderstrasse, 108*b*. Deutsch-Neuguinea, 193. Ray, 94: 28, 485: 28. Codrington, 41: 14. Polynesian Wanderings, 390. Subanu, 138.

POLYNESIAN.

niu Samoa, Tonga, Fakaofo, Futuna, Niuē, Uvea, Viti, Rotumā, Fotuna, Nukuoro, Nuguria, Moiki, Maori, Rarotonga, Manahiki, Tongarewa, Hawaii, Paumotu, Mangareva, Rapanui, Marquesas, Aniwa, Kapingamarangi

nu Mangaia.

MELANESIAN.

1. **niu** Kowamerara, Tatau, Barriai, Namatote, Siar, Ragetta, Kelana, Siassi, Rook, Lobo, Motu, Kabadi, Pokau, Doura, Sinaugoro, Keapara, Hula, Galoma, Mugula, Suau, Sariba, Tubetube, Panaieti, Nada, Dobu, Port Moresby, Manám, Moánus, Sissano, Efaté, Lifu, Sesake, Epi, Arag, Ulawa, Wango, Fagani, Bululaha, Vaturanga, Nggela, Bugotu.
2. **níu** Kobe, Pāk, Mouk, Graget, Tobadi, Ingros, Yakomul, Eluaue, Emsau, New Hanover, Sigab, Alu, Awa, Ndai.
3. **níŭ** Barriai, New Hanover.
4. **ă níu** Nakanai.
5. **ná nĭŭ** Kilenge, Tangoa.
6. **néu** Sissano, Arop.
7. **néŭ** Malol.
8. **néŏ** Bilibili, Limba, Langanie.
9. **neiŭ** Tumleo.
10. **niyu** Karufa.
11. **nihu** Misima.
12. **niwi** Areimoa.
13. **nijog** Jibu.
14. **liu** Alite.
15. **ni** Wogeo, Lauan, Nonapai, Lakurefanga, Sali, Panangai, Lemusmus, Lemakot.
16. **ă ní** Lakurumau.
17. **ning** Tami.
18. **nip** Bukaua, Jabim.
19. **nu** Nengone, Nifilole.
20. **ă nú** Tegarot.
21. **ngup** Longa.
22. **ne** Arop.
23. **nge** Bugi.
24. **nek** Bagail, Majum, Avelus, Lossuk, Mongai.
25. **unoi** Tagula.
26. **ngoi** Dabu.
27. **nŭr** Munuwai, Lochagon, Nemassalang.
28. **é nŭr** Fezoa.
29. **nul** Lawu.
30. **nun** Panaras-Nayama.
31. **niura** Mukawa.
32. **diura** Kwagila.
33. **neura** Tavara, Awalama, Taupota.
34. **rura** Kubiri, Kiviri.
35. **nérŭ** Vella Lavella.
36. **nuia** Kiriwina.

In my earlier examinations of this vocable I was led to the view that **niu** is a compacted form of **ni** and **u**, of which the definitive **u** yet remains of undetermined signification and **ni** is replete with the sense of the coconut, whether as tree or nut product thereof. This view is confirmed by the greater richness of forms here collected and by the wider establishment of forms already familiar. Before resuming the dissection from compacted forms of the varieties of stem **ni**, we shall

find advantage in discussing the variants of the modifying element **u** or other. The most frequent added member is **u**. In 9–11 we find from widely dissociated languages a preface to this **u**, semivocalic in 10 **ni–yu**, vocalic of the same series in 9 **ne–iu**, aspirated in 11 **ni–hu**; this forms a readily comprehensible series of coefficient-functioning modulants of secondary stem **u**; in 13 **ni–jog** we may have an equivalent of the **yu** of **ni–yu**, but in the lack of certainty of the phonetic system employed in the writing of Jibu in roman characters we are doubtful, but if **j** be used in its English double consonantal value we have an inexplicable anomaly; in 12 **ni–wi** we find no difficulty in tracing the modification of **u** into its proximate semivowel **w** before an additional assumption of **i**. This assumed **i** may be found in 25–26, there assumed by a variant of stem **nu**.

We next consider a group of assumed final consonants with the **u** stem. In 13 **ni–jo–g** we find a palatal mute, in 21 **ngup** we are dealing not with **u** modifier but with **nu** stem and therefore the labial mute **p** is to be omitted from this series; in 27–30 we find a group of interrelated forms included within a very frequent mutation type, the liquids **r** in 27–28 and **l** in 29, and the proximate nasal **n** in 30. In 31–34 and 36 we encounter a most interesting group and probably not so easy of resolution as appears on superficial examination. I had at first regarded these forms as the compacted **ni–u** plus an assumed **ra**. It is quite possible that in this set of forms we are dealing with a vocalic variant of stem **nu** with the addition of a modifier **ra**. This is clear in 34 **ru–ra**, where we encounter the frequent **n–r** mutation. In 36 **nuia**, which is distinctly in series with 31–34, if we regard **a** as devolution from **ra** we shall be left with a compaction **nui** instead of **niu**. This can scarcely be admitted as correct metathesis. It seems more satisfactory to regard the compaction as **nu–ia**, in which is readily recognizable **ia** as mutant upon **ra**, as to which we note that the interchanges of vowel and liquid have been set forth on pages 35 and 50. This assumed **ra** becomes by abrasion of the final vowel the parent of the **r–l–n** forms in 27–30. In 24 **ne–k** we find a palatal mute assumed by a variant of **ni** stem. Vella Lavella 35 **nérŭ** is not to be associated with the wide variation in this vocable; the intrusion of **r** is prohibitory of ascription to **niu**; **ne** might seem a **ni** derivative as in several instances in this series; **ru** might be derived from the **nu** stem; but to interpret the vocable as conjoint of these two elements would be to regard a primitive stem as modifying itself, a process wholly foreign to the genius of these languages. Accordingly we must rule **neru** out of the identifications. The stem **n** is remarkably constant; we find its mutation to liquids in 14 **liu** and 34 **rura**, and to labial mute **d** in 32 **diura**. In the Polynesian system we note in Mangaia the preservation of **nu** which in our Melanesian material we find of considerable frequency. It is found in 19–21, 27–34, 36. A group

in which we find the stem **ne**, an easy variant of **ni**, is 6–9, 22–24. The two forms **unoi** and 26 **ngoi** are clearly associable, a primitive stem as **no** by devolution from **nu** having assumed a final **i** as in 12; the stem **no** has varied in 26 to **ngo**, but in 25 remaining unaltered it has attached itself to **u** of undetermined sense. Out of this complex of three dozen widely varying items we feel justified in extracting two varieties of primitive stem, **ni** which varies to **ne**, and **nu** which varies to **no**. In 15–16 we find clear proof that **ni** is sufficient to carry the sense without additions, in 22–23 that **ne** can do the same, and in 19–20 that **nu** is equally strong.

69. **ol** pot.

REFERENCES: Melanesische Wanderstrasse, 70: 151, 139: 151. Deutsch-Neuguinea, 214c. Ray, 405: 101, 496: 101.

POLYNESIAN.

kuro	Viti.	**'ulo**	Samoa.
kulo	Tonga, Nuguria.	**ūlo**	Niuē.

MELANESIAN.

1. **kuro**	Tangoa.	10. **ol**	Sissano.
2. **nă kúlo**	Kilenge.	11. **kóre**	Shortland Islands.
3. **gulo**	Sinaugoro, Hula, Keapara.	12. **ure**	Dobu.
4. **kul**	Tami.	13. **gureva**	Suau.
5. **ku**	Pāk, Jabim.	14. **gurewa**	Sariba, Misima.
6. **uro**	Motu, Maiva, Roro, Kabadi, Gosisi.	15. **karóng**	Bongu.
		16. **olun**	Misima.
7. **ulo**	Kelana, Galoma, Barriai.	17. **urun**	Panaieti.
8. **nipji-uru**	Aneityum.	18. **kudsi**	Kai.
9. **ur**	Rook.	19. **buro**	Efaté.

The history of this stem is largely conditioned by technical factors. The pot presupposes workable clay and the discovery of the fictile art in at least its more primitive details of molding and firing. In the comparatively recent vulcanism of the islands of Polynesia potter's clay is but scantily found and the art of the potter is non-existent. In many parts of Melanesia the art and the material exist, the nearest approximation to the distinctly Polynesian area being in Fiji, where pottery has attained no inconsiderable development. It will be seen in this series of identifications that the name designating earthenware articles occurs only in Nuclear Polynesia and may very properly be assigned to the more ancient Proto-Samoan migration.

Since the word is absent from the Tongafiti migration languages we shall consider two explanations. It may have been an ancient vocable in the Polynesian before its dispersal in Indonesia and the divarication of the two migration movements, and in the course of distant wanderings over tracks that did not unite until long afterward in central Polynesia the word was lost to memory through the loss of the objects thereby denoted. Or the word may have been picked up by migrant Polynesians as a loan word from Melanesians who were in possession of the art. I incline somewhat toward the latter theory,

but we may defer its consideration until we recur to the stem in the discussion of Indonesian relations.

Before leaving the Polynesian identifications we must consider a note made by Pratt in the Samoan dictionary. In the first edition of that work (1862) the learned author sets against **'ulo** the comment "introduced." The second edition (1876) is lacking to my library; but in the third (1892) the note had been amplified to the specific statement "a Tongan word." I called to the attention of the Rev. J. E. Newell the fact that, if introduced at all, the word was quite as much loan material in Tonga as in Samoa and that its nearest source was to be found in Viti **kuro.** Agreeing with me in general, he was so conservative in his editing of the fourth edition (1911) of Pratt that he did not alter the note. In Tonga there is no manufacture of pottery nor working of clay; the pots were an object of oversea trade with Fiji and the name came with the pots, the only change being the shift from **r** to **l** in conformity with a phonetic principle operative in Tonga and Samoa.

Tregear and Percy Smith make an equivalent note upon **ūlo** in Niuē. The word and the object may have been carried from Tonga to Samoa and to Niuē, for the latter had no commerce with Fiji and the Samoan intercourse with Fijians in the early legend period I hope in time to prove had naught to do with the archipelago which at present bears the designation of Fiji or Viti. Notwithstanding this lack of intercourse, the ascription of the word to Tonga is less satisfactory than its reference to Viti as the point of original distribution. In the Melanesian series we have some very satisfactory identifications in devolution order. For technical reasons there is a lack of instances of the stem in Melanesia proper; in fact all that I have recovered are 1, 8, 11, 19.

In this connection we should observe also that Codrington, our best source of Melanesian vocables in comparison, has not noted this word in his tables; therefore it is not impossible that as more vocabularies of Melanesia become available we shall be able to fill up these lacunæ. Tangoan **kuro** is absolutely established as of this stem, for it is exactly the Viti form. So much of Aneityum **nipji-uru** as may be related to this stem involves the change of the latter stem vowel from **o** to **u**. This may be regarded as supported by the confirmation of 16–17. The establishment of 11 **kôre** requires the confirmation of the variation of the latter vowel from **o** to **e** and the variation of the former stem vowel from **u** to **o.** Neither of these is at all unusual in the mutation system developed in these Melanesian studies. The **u–o** mutation is abundantly upheld by 10 **ol** and 16 **olun**; the **o–e** mutation finds support in 12–14. The citation 19 **buro** which Friederici draws from Efaté I have been unable to verify, for it does not appear in Macdonald's dictionary of some speech of that island. If accu-

rately recorded it would involve mutation by progression of mutes, a principle which is quite unestablished in these languages. We therefore leave it out of the account.

We find, accordingly, in Melanesia proper, the stem surely established at three determining points—the extreme south of the New Hebrides, the central region of that group, and the center of the Solomon Islands—two points upon my Viti stream, one upon the Samoa stream. The other affiliations are derived from New Guinea in the three divisions which I have proposed for reference and from that part of the western Bismarck Archipelago immediately adjacent thereto. Friederici points out in the Bismarck Archipelago at large the existence of a diverse stem and quite cogently establishes its independent character, although in one form **pot** it suggests acquisition through Beach-la-Mar from an English source. In the items 2–7 and 9 we have a smooth series of identifications. The Sissano 10 **ol,** on which this inquiry rests, entails no difficulty. In 12–14, after omitting the accidental additions which are in harmony through three languages, we have no difficulty in seeing a series of affiliates. The only thing which might militate against this identification is that Misima has not only 14 **gurewa** but also 16 **olun,** diverse derivatives from the same stem; but this is matter of no grave importance. The Bongu 15 **karóng** is somewhat violent in affiliation, but the fact that it falls into series with 16–17 in the assumption of a final nasal admits it to consideration. The Kai 18 **kudsi** has no more resemblance than the **ku,** the mutation l–ds is not supported elsewhere in these languages, and in this series we find no evidence of o–i mutation, except as it may progress from o–e, which occurs in 11–14.

73. **pipíp** butterfly.

REFERENCES: Melanesische Wanderstrasse, 67: 131, 130: 131. Deutsch-Neugu nea, 202*b*. Ray, 394: 23, 485: 23. Codrington 41: 12 Polynesian Wanderings, 251.

POLYNESIAN.

pepe	Samoa, Futuna, Uvea, Niuē, Nukuoro, Fotuna, Nuguria, Tahiti, Marquesas, Maori.	**bebe**	Tonga.
		mbèmbê	Viti.
		pep	Rotumā.

MELANESIAN.

1. **pêpe**	Hula, Keapara, Galoma, Lauan, Mota, Saa, Bululaha, Fagani, Ulawa, Nguna, Tangoa, Arag, Marina.	9. **ndrapīpi**	Moánus.
		10. **pip**	Lo.
		11. **pipíp**	Sissano.
		12. **papiwa**	Kunini, Jibu.
		13. **papapi**	Dabu.
		14. **papelug**	Bugi.
2. **lepepe**	Epi.	15. **paubuuk**	Tanna.
3. **pepele**	New Georgia.	16. **bebe**	Baravon, New Britain, Domara, Mailu, Rubi, Suau, Sariba, Massim, Wango, Vaturanga, Efaté, Arag, Buka, Omba, Maewo.
4. **pepeqa**	Dobu.		
5. **pĕpĕă**	Vrinágol.		
6. **pep**	Lakon, Pak, Sasar, Alo Teqel.		
7. **peb**	Norbarbar.		
8. **pipi**	Namau, Elema, Uaripi, Toaripi, Lepu.	17. **bĕbĕ**	Petat, Alu.

18.	**bébé**	Hamatana.	
19.	**kau-bebe**	Motu, Sinaugoro.	
20.	**bembe**	Baki.	
21.	**mbembe**	Omba, Maewo.	
22.	**kă mbĕmbĕ**	Vitu.	
23.	**bäbä**	Laur.	
24.	**bebebi**	Panaieti, Misima.	
25.	**beberoho**	Manukolo.	
26.	**beberu**	Mulaha.	
27.	**bebeu**	Taupota, Wedau.	
28.	**beberuka**	Koita.	
29.	**bebeula**	Savo.	
30.	**arabembemta**	Mukawa, Raqa.	
31.	**beämbéa**	Kowamerara.	
32.	**beb**	Merlav, Gog, Motlav, Volow.	
33.	**kambā**	Lambell.	
34.	**bäm**	Lamassa.	
35.	**beba**	Nada, Kiriwina.	
36.	**bebabeba**	Boniki.	
37.	**bebi**	Mugula, Tubetube, Tagula, Murua, Brierly Island.	
38.	**ebebelo**	Pokau.	
39.	**uleulebe**	Ngela.	
40.	**mbĕ**	New Hanover.	
41.	**bawe**	Buka.	
42.	**koribaba**	Musa.	
43.	**abābang**	Chamorro.	
44.	**babbub**	Marshalls.	
45.	**bibi**	Hanahán.	
46.	**karabimbim**	Kwagila.	
47.	**bŏbo**	Wogeo.	
48.	**bŏbŏ**	Barriai.	
49.	**năl bŏbŏ**	Kilenge.	
50.	**bobŏbe**	Manám.	
51.	**bŏbŏdí**	Pāk.	
52.	**bŏbŏkōrō**	Tuom, Siassi.	
53.	**boiboi**	Tumu.	
54.	**kili-bŏb**	Bilibili, Graget.	
55.	**fefe**	Mekeo.	
56.	**fefek**	Kiviri, Oiun.	
57.	**fifi**	Milareipi.	
58.	**vebe**	Malo.	
59.	**pŏpéa**	Vrinágol.	
60.	**peropero**	Roro.	
61.	**kapeu**	Awalama.	
62.	**gopu**	Tavara.	

We deal here with a series which involves the characteristic mutation system of the labials in Melanesian speech. In my examination of the labials of these primitive languages I have seldom encountered a stem whose simplicity of structure and whose extension over so wide a distribution of remote languages has afforded so excellent a base on which to study out the labial movements. We have a vowel short in quantity preceded by a labial. While employing for convenience the term mutation, I can not regard as active here any principle at all comparable with Grimm's law of the progression of the mutes in the Indo-European languages. For purposes of fixing the meaning of this stem there has arisen and has come into common consent the employment of a labial, some labial, whichever can best be compassed in the stage of control of the lips in speech which has been attained by the several groups of speakers in any given community. I have sought vainly to discover some principle underlying the choice of the particular labial brought into use; this on the assumption that the choice is governed after some such orderly manner as is the progression of the mutes in languages of the higher type. All becomes clear and reasonable, however, if we regard the several labials as functions of the motive to employ the lips in speech to specify in the consonantal modulant preface that coefficient value which shall tend to set aside the basic vowel in this combination as revealing a sense more or less specific and furnishing a step toward the establishment of a noun vocable through a descriptive attributive. In this instance we encounter the complete range of the labials, as in the following list:

p	1–15, 59, 61, 62.	**f**	55–57.
b	7, 15–20, 23–32, 34–39, 41–54, 58.	**v**	58.
mb	20–22, 30, 31, 33, 40, 46.	**w**	41.

Here we find the strongest insistence upon the mutes, and particularly upon the sonant **b**, this being particularly marked in the lan-

guages in which the sonant mute is so imperfectly acquired as to call for the help of the preface of the nasal of its own series, **mb**, in order to secure its pronunciation at all. In a smaller group we find the spirants, surd **f** in a compact language group in Papua, surd **v** once occurring in a region far remote. Even the semivowel proximate to the labial tract, **w**, is once met with in the variety of this vocable; other stems in which it is employed with some greater frequency tend to corroborate this instance. The stem is almost uniformly duplicated or in a condition reduced from duplication by abrasion of the final vowel. The nude stem appears but once in 40 **mbe**; in compaction with other stems we may trace it in 33 **kambä**, 39 **uleulebe**, 61 **kapeu**, and 62 **gopu**. The vowels exhibit considerable variety, as shown in this list of the characteristic vowel of the monosyllabic forms and the combination of the two vowels in the completely duplicated forms:

e 6, 7, 32, 34, 40.
e–e 1–5, 16–22, 23, 24–30, 38, 55–56, 58.
e–a 35, 36.
e–i 37.
i 10.
i–i 8, 9, 11, 45, 46, 57.
a–a 42, 43.
a–e 14, 41.
a–i 12, 13.
o–o 47–52.
o–e 59.

In 23, 33, and 34 the vowel is recorded by a German authority as **ä**. Inasmuch as this recorder has not been generally confirmed by the succeeding explorations of Friederici in the same field, I attach no great weight to this umlaut, and for practical purposes have included these forms in the **e** classes. In the "Polynesian Wanderings," *loc. cit.*, I have extracted from languages about the Gulf of Papua a comparative series of forms which at several points bear close resemblances to the **pepe** series, this series carrying the signification of the wing. The association in sense is so noteworthy that it would not be improper to suspect a community of source in some archetype stem of such scope of meaning as to admit both the vocables.

In his argute elucidation of 49 **năl bŏbŏ** Friederici traces out a most interesting series of compactions of the bird-butterfly sense. Unfortunately we lack data upon which to resolve the other compactions of this series, yet the recurrence of certain types can not be without significance. In these lists the position of the hyphen denotes the place in the compacted form occupied by the extraneous element, whether initial or final. We segregate a group in which some community may be imagined: 39 **ule–**, 2 **le–**, 29 **–ula**, 3 **–le**, 38 **–lo**, 14 **–lug**. Another group is found as initial—the series seems well established: 46 **kara–**, 9 **ndra–**, 30 **ara–**, 42 **kori–**, 54 **kili–**; once only is this found as final, 52 **–koro**. A final series appears in 28 **–ruka**, 25 **–roho**, 26 **–ru**, 27 and 61 **–u**. Another is 12 **–wa**, 4 **–pwa**, 5, 31, and 59 **–a**. Yet another is 50 **–be**, 24 **–bi**, 13 **–pi**, 11 **–p**. Three forms are represented singly—19 **kau–**, 15 **–k**, 51 **–di**.

In closing, a few notes should be made upon certain of these forms. Tanna has particularly deformed its borrowings from migrant races;

rarely can we be positive about any identification; but 15 **paubuuk** is worthy of inclusion on the score of the persistence of the labials, despite the vowel deformation and the addition of an extraneous element in **-k** or **-uk**. In 31 **beămbéa** and in 53 **boiboi** the presence of the typical labials is somewhat offset by the intrusion of added vowels; this is sufficient to cast grave doubt upon the affiliation. Likewise 60 **peropero** is very doubtful. I give it place in the record simply because it occurs within a region in which **pepe** affiliates are abundant.

76. **pul** pig.

REFERENCES: Melanesische Wanderstrasse, 68: 136. Hanke, Grammatik und Vokabularium der Bongu-Sprache, 117. Ray, 405: 100, 496: 100. Codrington, 48: 47. Polynesian Wanderings, 428.

POLYNESIAN.

buaka Tonga.
puaka Futuna, Niuē, Uvea, Nukuoro, Rarotonga, Mangareva, Rapanui Rotumā.
poaka Maori.
pua'a Samoa.
puaa Tahiti, Marquesas, Hawaii.
vuaka Viti.

MELANESIAN.

1. **puaka**	Nengone, Lifu.	36. **bŏlĕ**	Dallmannhafen.
2. **boako**	Rubiana.	37. **bĕlĭ**	Lawu.
3. **pakasi**	Aniwa, Fotuna.	38. **poro**	Tavara, Awalama, Taupota, Wedau, Galavi, Boniki, Mukawa.
4. **bokasi**	Sesake.		
5. **bukahi**	Bierian.		
6. **bwokas**	Efaté.	39. **pŏrŏ**	Reboine.
7. **bwakas**	Efaté.	40. **pōrŏ**	Entsau.
8. **mpokas**	Eromanga.	41. **aiporo**	Roro.
9. **pigath**	Aneityum.	42. **polo**	Savo.
10. **puka'**	Tanna.	43. **pōrĕ**	Ingros.
11. **puka**	Adaua.	44. **pŏrĕ**	Tobadi.
12. **uāngo**	Efaté.	45. **pŏlĕ**	Dallmannhafen.
13. **wango**	Sesake.	46. **foro**	Kubiri, Raqa, Kiviri, Oiun.
14. **vŏkŏ**	Bagail, Majum, Avelus, Lossuk, Mongai.	47. **bor**	Sarán, Manám.
15. **vŏnggo**	Bauung, Ngamat.	48. **bōr**	Keule.
16. **bŏnggo**	Tsoi.	49. **bŏr**	Ragetta, Siassa, Bilibili, Simberi.
17. **uàk**	Efaté.		
18. **boro**	Adaua, Musa, Duke of York.	50. **mbor**	Laur.
		51. **mbŏr**	Nokon, Suralil.
19. **bōrŏ**	Wogeo.	52. **bol**	Sissano, Buramana, Koliku, Male, Sunggun, Limba, Daman, Langanie, Kaliko.
20. **bŏrŏ**	Molot.		
21. **mbōro**	Vitu.		
22. **mbōrŏ**	Kowamerara, Sigab, Tatau, Maréi, Wogeo.	53. **mbol**	Tami.
		54. **bur**	Dagor, Vatai.
23. **mbŏrŏ**	Kait, Kalangor.	55. **bul**	Put, Kumenim, Bongu.
24. **bolo**	Nggela.	56. **būl**	Bongu.
25. **balauta**	Kilenge (**bolo-uta**).	57. **bel**	Bogadjim.
26. **bŏlŏ**	Muschu.	58. **por**	Seleo.
27. **mbolo**	Nakanai.	59. **pul**	Tumleo.
28. **bŏroi**	Kabakaul.	60. **pŭl**	Sissano.
29. **mbŏroi**	Matupí, Kambangeriu, Kondo, Yalui, Lamassa.	61. **boalo**	Aola.
		62. **mbŏál**	Lihir.
30. **bŏrĕ**	Palabong.	63. **poalo**	Tubetube.
31. **bŏre**	Pala.	64. **búer**	Dagur, Vatai.
32. **bōrĕ**	Namarodu, Lalinau, Bisapu, Punam.	65. **búel**	Dagur, Vatai.
		66. **búĕl**	Vrinágol, Tsinapäli, Akur.
33. **bŏre**	Kelana.	67. **púer**	Paup, Yakomul.
34. **bŏrĭ**	Munuwai, Lochagon, Nemassalang, Fezoa.	68. **púŏl**	Sēr, Arop, Maló1.
		69. **púĕl**	Maló1.
35. **bâre**	Sekó.		

70. **vůěl** Vrinágol, Tsinapäli, Akur.
71. **boroma** Kabadi, Motu.
72. **boromo** Mawata, Kiwai.
73. **borom** Miriam.
74. **burum** Mabuiag.
75. **buluma** Uni.
76. **boloma** Pokau.
77. **blome** Kunini.
78. **foloma** Uni.
79. **woroma** Jibu.
80. **bonomo** Binandele.
81. **bōrōgō** Iapa.
82. **buruka** Sariba, Murua.
83. **buruku** Nada.
84. **bŏnŏgŏ** Burruwe.
85. **bunuka** Kiriwina.
86. **poraa** Mailu.
87. **boraa** Domara.
88. **bosu** Nggao.
89. **bos** Siar.
90. **bŏs** Graget.
91. **botho** Bugotu.
92. **pom** Hanahán.
93. **pum** Lehona.
94. **pūm** Buka.
95. **apum** Buka.
96. **boama** Yela.
97. **pŭŏm** Hamatana.
98. **paum** Buka.
99. **bo** Wango, Alite, Vaturanga, Belik.
100. **bō** Anir.
101. **bŏ** Tanga, Jabim.
102. **mbo** Maragum, Rumba.
103. **mbwo** Yela.
104. **kmbwo** Motlav, Gog, Norbarbar.
105. **nggmbwo** Volow.
106. **kbwo** Pak, Sasar.
107. **ba** Leitere.
108. **be** Ruavatu, Aola, Bukaua.
109. **bu** Pāk.
110. **po** Ulawa, Bululaha, Paluan, Mouk.
111. **pwo** Saa.
112. **kpwo** Lakon, Vuras, Mosin, Lo.
113. **kmpwo** Alo Teqel.
114. **pu** Binandele, Amara, Mórobe.
115. **bobo** Tubetube, Tagula, Brierly Island.
116. **bobu** Panaieti, Misima.
117. **bawa** Mugula.
118. **baa** Rubi.
119. **kmbwoe** Omba, Maewo.
120. **poe** Nifilole, Marina.
121. **kpwoe** Arag, Mota.
122. **kmpwoe** Merlav.
123. **bōĭ** Bōk.
124. **bóĭ** Liuaniua, Lakurumau.
125. **mboi** Langtub.
126. **bue** Baki, Ambrym.
127. **pui** Epi.
128. **wŏe** Gaima.
129. **wue** Girara.
130. **bawe** Dobu.
131. **bai** Sinaugoro.
132. **pae** Hula, Keapara, Galoma.
133. **boa** Shortland Islands.
134. **boo** Fagani.
135. **bou** Ninigo.
136. **mbuo** Tumuip.
137. **pŏu** Moánus.
138. **pŏŭ** Mouk.
139. **púŏ** Lou.

In proportion as competent observers supply us with data concerning the cultural life of Melanesia we shall find the pig one of the most valuable agencies in tracing out the movement of folk migration athwart the islands of the Pacific. At present our best information upon the part which the pig plays in the life of Melanesia, its status as a bride-piece, its intimate association with the initiation into the secret fraternities, its entanglement with the magic of daily life, is recorded in the interesting volumes of Rivers on the history of Melanesian society lately put to press. Of the pig in general he writes:

> There is much reason to believe that the pigs found in Polynesia by the earlier European navigators were widely different from the domestic pig of Europe, even if they were not members of a different species such as is still found in New Guinea. The Melanesian pig still differs widely in appearance from our own. If the considerations which have led me to ascribe other elements of culture to the kava people have any weight, the pig should have been introduced into Oceania by this people. (W. H. R. Rivers: The History of Melanesian Society, II 460.)

The suggestion of this introduction to the islands was made much before Rivers turned his attention to the problems of Oceania. Since the work in which this priority exists (Thomas Powell's natural history

in Samoan) is now rare and written in a language unfamiliar to the Cambridge scholar, it is certain that he had no acquaintance with the work of his predecessor. I translate from the Samoan the following statement. It is clear that Powell, a trained naturalist as well as missionary, had not himself seen the Samoan pig, but he had the opportunity to obtain the description from the older Samoans, who could point out the differences between the introduced hog and that with which they were familiar before the coming of *Sus scrofa*.

> There was formerly in Samoa another hog whose name was the *alou*. It is likely that this hog was brought from some land in Asia by the Samoan chiefs who first touched at these islands. This animal resembled the China hog. Its body was rounded, dark colored, and pretty. Its head was rather short, its legs short, its ears somewhat small; it was very tame. It is a long time since this hog has been seen in Samoa. Probably it was made extinct in the feasts celebrating the establishment of the kingdom of Jesus to which the Samoans flocked in great numbers. (Thomas Powell: 'O le Tala i Tino o Tagata ma Mea Ola 'Ese'ese, 230.)

We shall recur to this suggestion of introduction made by Powell and by Rivers after the examination of the linguistic material for the discovery of such evidence as it may bring to bear upon the theme.

In a former work (The Polynesian Wanderings, 428) I discussed the linguistics of this group of words upon material considerably less complete than is now available. Therefore the present note is intended to replace the earlier comment, for the material is now examined *de novo*. From that former note I wish to repeat the statement that the suggested derivation of Polynesian **puaka** through loan from English pork is wholly untenable; it would be quite as reasonable to suggest that 133 **boa** of the Shortland Islands is a loan from English boar.

In ordering these words in the foregoing tabular arrangement I have discovered certain classes, and these classes I have set in succession by reason of the appearance of development, upward or downward as the case may be; but for the present I must reserve the important point of evolution suggested by this arrangement. These classes in Melanesia and the items involved are the following:

A. Polynesian (**puaka**) type	1– 2	H. labial-liquid-palatal	81–85
B. labial-palatal-sibilant	3– 9	I. labial-liquid——	86–87
C. labial-palatal	10–17	J. labial-sibilant	88–91
D. labial-liquid dissyllable	18–46	K. labial–*m*	92–98
E. labial-liquid monosyllable	47–60	L. labial	99–114
F. labial-(2 vowels)-liquid	61–70	M. labial duplicated	115–118
G. labial-liquid–*m*	71–80	N. labial (2 vowels)	119–139

These variants group themselves around the forms **puaka, pakasi, boro,** and **bo,** and we shall first examine the forms which appear associable with each of these four standards.

puaka *type*.—This is standard throughout Polynesia, it occurs in Rapanui, where the pig was unknown, or, more accurately stated, had not been included in the migration which peopled Easter Island. In

this island the word had been retained and was employed as a general designation of the larger animals, and when the hog was reintroduced by European voyagers it took the new name *horu*. In Samoa also **puaka** is generic of any of the larger animals, while retaining its specific application to the hog. It may have value in connection with the social history of swine in the Pacific to note that in Samoan **puaka** is not permissible in the presence of chiefs. In the courtesy speech its place is taken by **alou** or more generally by **manuvaefā**, the four-legged animal or quadruped. I have been unable to verify Powell's statement that there were two pigs, one named **puaka**, the other **alou**, for my most learned informants declare that the latter is no more than the name of the same animal in courtesy speech. In Melanesia **puaka** is found in two widely separated localities. In its unmodified form we note its occurrence in Lifu and Nengone. In my earlier note I suggested its introduction by Samoan missionaries. This does not now seem to me a valid suggestion; it would apply only to Lifu and not at all to Nengone; it is unlikely that from Samoan **pua'a** the New Caledonians and Loyalty Islanders could restore with such precision the missing palatal mute. The **boako** of Rubiana is quite removed from the possibility of such missionary contamination. Accordingly we prefer to regard these instances as survival of the passage of the Polynesian migrations, the kava people of the ingenious and important social classification established by Rivers, one (Rubiana) along the Samoa stream, the other a derelict on the Viti stream.

pakasi *type*, *items* 4–17.—I had formerly noted that 6 **bwokas** and 7 **bwakas**, both of Efaté, marked the transition phase from **puaka** to **pakasi**. This should be withdrawn, for the **bw** is clearly no more than a manifestation of the frequent uncertainty of the Melanesian use of the labials, of which we have many examples. We are still more debarred from the explanation that the **pu** of **puaka** is due to Polynesian inability to pronounce the labial, for in all those languages the labials are very precisely enunciated. Inasmuch as **puaka** is noun substantive and therefore not subject to the addition of formative suffix, we have no means of determining if ever it had a final **s**, but since we have three forms (3–5) which could be used in the open type of Polynesian speech, we must feel sure that, so far as concerns the final syllable, **pakasi** could not become **puaka**. Rejecting the suggestion as to **w** in 7 **bwakas**, for it is not at all vocalic but only an excrescence on the consonant **b**, we are equally certain in the rejection of association of the two forms so far as relates to the earlier portion of the words. This is clear when we examine the syllabification of the words, **pu-a-ka** and **pa-ka-si**. Before the **k** we have in Polynesia two syllables; we have no knowledge of a single case in Oceanic speech in which a consonantal syllable such as **pu** has lost its essential vowel and has united over the gap to form a new syllable such as **pa** of

wholly different value. We now see no possibility of any interassociation between **puaka** and **pakasi.**

Regarded as an independent vocable **pakasi** presents here an interesting linguistic history. Items 3, 4, 5 show the word at its best and fullest, the variety of the first vowel and the mutation from **s** to **h** in 5 are all among the commonplaces of the philology of the Western Pacific. The same is true of the abrasion of the final vowel in items 6–9, a very common procedure in such of the languages of Melanesia as prefer the closed type. We have already commented on the initial modified consonant in the Efaté forms, the lack of labial precision whereby before the pronunciation of the mute is completed the organs slip back into the more easy semivowel position and a slur is produced. We have the opposite treatment of the labial mute in 8 **mpokas** of Eromanga. Before the mute can be pronounced the organs have first to assume the more familiar and habitual nasal position and the sounding of the lip consonant carries the trace of that prefatory position, a process of frequent occurrence and one which I have designated as mutes with the preface of the nasal of the same series.

In item 9 **pigath** of Aneityum the modification of the final sibilant will be recognized as the defective speech familiar to us as the lisp, the result of a neglect to assume the precise position of the tongue necessary for the issuance of the sibilant. A similar diversion of the tongue, though in a different direction, gives the common **s–h** mutation which we have noted in 5 **bukahi.** The Tanna form 10 **puka'** appears as a secondary derivative from one of the closed forms with a slight geographical argument in favor of Eromanga as the source; but we have such scant information on the vocabulary of Tanna that we can not pass definitely upon this form; it may be that a whole final syllable has been abraded. The Adaua 11 **puka** comes from the other end of Melanesia and may not be associable herewith.

Items 12, 13, and 17 fall together for consideration. It is easy to derive 12 and 13 from **pakasi** by abrasion of the final syllable and by mutation of the difficult initial mute to semivowel and vowel respectively of the same buccal area, and from **uango** to 17 **uăk** is but a second step in abrasion to a closed syllable. It will be observed, however, that in Sesake 13 **wango** exists side by side with 4 **bokasi,** and in Efaté 12 **uāngo** with 6 **bwokas.** It is not impossible for a primitive and a derivative therefrom to exist simultaneously in any speech; in fact, we have in Efaté a secondary derivative 17 **uăk.** This objection, therefore, need not be held vital.

Geographically at a great distance, on that account all the more interesting, we examine the forms 14–16. There is no linguistic reason why they should not be taken as coordinate with 12–13 in their relation to the **pakasi** stem; indeed, their possession of the final **o** links them closely with the Efaté and Sesake forms. These are from

the New Guinea and Bismarck Archipelago region and so far support Captain Friederici's argument in favor of a migration exit through Vitiaz Straits, which would bring the canoe fleets so far to leeward as to fall into my Viti stream, for which I have suggested the exit from Indonesia through Torres Straits. This comports well with the fact that all these Melanesian identifications lie within the region reached by that migration stream, to which we should add 11 Adaua from Dyke Acland Bay in New Guinea. This can have no bearing on my Torres Straits exit, for the two streams must inevitably mingle at the Louisiades and thenceonward flow in common.

boro *type*, *items* 18–87.—The life-history of this stem is so peculiarly complicated that we shall find it advisable to examine its variety in accordance with the table on page 70, in which it occupies classes D, E, F, G, H, and I.

Class D, *items* 18–46.—Here we find the initial consonant as **b** in 18–20, 24–26, 28, 30–37, and with preface of the nasal of the same series **mb** in 21–23, 27, and 29; as **p** in 38–45; as **f** in the single instance of 46 **foro** from four languages closely set together in Collingwood Bay in New Guinea, where the natural drainage is through the Dampier-Vitiaz Straits. The second consonant, the liquid, is **r** in most cases; the simple mutant **l** is found in 24–27, 36–37, 42 and 45. The close resemblance between 46 **foro** and 14 **voko** suggests examination; to link the two would require the establishment of the **k–r** or **r–k** mutation. In the extended mutation studies in the "Polynesian Wanderings" the former does not appear at all, the latter in but a single instance (*op. cit.* 366). We regard **foro–voko** as no more than a resemblance. The former vowel **o** holds in a majority of the forms. A mutation to **a** appears in 25 and 35, this **o–a** interplay being not infrequent in these languages.

Friederici has very shrewdly interpreted the evidently compacted 25 **balauta** as **bolo-uta**, the hog of the bush. The only possible objection is that **uta** of the landward regions is distinctively a Polynesian word which I have not elsewhere had the opportunity of discovering in Melanesia, with the sole exception of Nguna **euta** landward *apud* Tregear. In Indonesia it is found in Malay **utan** and Visayan **yuta**. In the paucity of our vocabulary material this failure to find **uta** is inconsiderable. This **uta** appears in Mota, and Codrington and Palmer make the note that it is used very commonly in Melanesia, all of which confirms Friederici's ingenious reading of the compacted form. Another compaction, 41 **aiporo**, he interprets as a determinan compound of **ai** from the intrusive **gai** word for pig with the common **poro**, a possibility in these languages. In 37 **bĕlĭ** we have a double vowel change, but 36 **bŏlĕ** may serve as an intermediate step in the passage. The latter vowel **o** remains through a majority of these forms. The mutation **o–a** is found only in 25 **balauta**. The frequent

o–e mutation is found in 30–33, 35–36, 43–45. In the same direction and but a slight step in progress the o–i mutation is found in 34 and 39. In 28 and 29 we find the addition of another vowel syllable i. This is distinctly not a phonetic variation; the final syllable i is added to the poro stem for some reason inherent in the sense. We have no means of determining the shade of meaning thereby established, yet it is not without significance that we find the bo stem distinguished in items 119–132 by this i (e).

In connection with boro we should examine class G, in which the stem is differenced by the addition of a nasal syllable, ma in 71, 75–76, 78–79; me in 77; mo in 72, 80; and simple m in 73, 74. In these varieties the stem o–o is largely preserved; the change to u–u in 75 buluma is checked up by 76 boloma of Pokau, a language intimately associated with Uni. In 77 blome we have the rare excision of an interior vowel, as b(o)lome, but it is indisputable that this excision is what has taken place; compare Barriai 8 tna in the collation of 99 tenan. In 78 foloma we are in line with 46 foro of the simple stem, and in 79 woroma we find a yet further mutation along the labial series to the simple ease of enunciation of the semivowel. In 80 bonomo we find the facile r–n mutation and for a principal form refer to 72 boroma. The u–u of 74 burum hangs upon the other abraded form 73 borom as buluma hangs upon boloma.

Here also we include for consideration class H. This differs from class G in that the added element is palatal—sonant mute g in go in 81 and 84, surd mute k in ka in 82 and 85 and in ku in 83. In 81 and 84 we have the o–o stem associated with o in the added element; in 83 the u–u stem associated with u in the added element; but 82 and 85, in which stem u–u is associated with a in the added element, disprove the natural suggestion of vowel coloration through influence of the stem.

I have adjusted 86–87 at this point because they suggest the addition of a palatal ka followed by obliteration of the mute. In certain of the Polynesian languages this would challenge no contradiction. Whether it holds of these New Guinea languages which Ray classes as Papuan is doubtful, inasmuch as we find the k in the phonetic equipment of the languages. It is probably simpler to regard this as the assumption of a, but that is without confirmation elsewhere in this discussion.

We now recur to class E, items 47–60; merely the boro stem after it has undergone abrasion and become the closed bor. The initial b is found in 47–57, with nasal preface in 50, 51, and 53; p in 58–60. Of the succeeding liquid we have r in 47–51, 54 and 58; l in 52, 53, 55–57, 59–60. The stem o is found in 47–53, 58; it changes to u in 54–56 and 59–60; to e in 57.

At this point I interject class F for consideration. It has the consonant structure of **boro–bor,** but between the consonants appear two vowels producing an extra syllable. The suggestion occurs that **bo** of 61–63 might be a variant expression of the slurred **b** more commonly written **bw**; this is negatived by the presence of the accent in 64–70. It is clear that the forms included in this class are in interdependence, but to attempt to associate them with **bor** involves a phonetic principle for which we have not as yet confirmation. Yet it seems quite likely, and, subject to correction, I assign this group provisionally to the **bor** type.

Class J, items 88–91, form a group in which 88 **bosu** and the lisping 91 **botho** show such relation to **boro** as 89–90 **bos** to **bor.** This involves the **r–s** mutation, and my studies in these languages have not disclosed this movement. In view of the fact that we can support the mutation **l–t** by several instances, and that **l–s** is mutation in the same direction but to a point nearer in the same series, we may give considerable weight to the **l–th** mutation occurring in **langa–thango** from Bugotu (The Polynesian Wanderings, 361).

Class K, items 92–98, is principally found in the northern Solomons, but with an interesting instance 96 from Papuan New Guinea, which is of peculiar significance because Rossel Island, where the language is spoken, is far advanced on the course toward the northern Solomons which would be followed by a canoe coasting the south shore of New Britain. The seven forms are clearly interdependent; they hint somewhat strongly at an association with **bor.** The forms of class G 71–80 seem to come within the same system. We have no warrant for the **r–m** mutation, and in the absence thereof this class remains a puzzle.

Class L, items 99–114, falls readily under the type form **bo,** and that is clearly a regular devolution form in the series **boro–bor–bo.** The initial consonant **b** is found in 99–109, **p** in 110–114; in each case we have examples of the Melanesian inability to enunciate labials distinctly in 102–106 and 111–113. The stem **o** is found in 99–106 and 110–113. The vowel changes to **u** in 109 and 114, to **a** in 107, to **e** in 108; the stem is here so far reduced that we may not venture to affirm that the two latter are really **bo** variants except in so far as these mutations are not unknown, and the persistence of the **b** points in that direction.

Class M, items 115–118.—The form 115 **bobo** suggests duplication of the **bo** stem. To pass by mutation to **bobu** involves a change of stem vowel which is quite rare in the mechanics of duplication, yet not impossible. The same note, applied to the consonant, holds in **bawa** as a duplicant of 107 **ba**; but having once admitted this form, **baa** naturally follows. The latter pair seem associable with 130 **bawe** and 134 **boo.**

Class N, items 119–139, embraces many variant forms which have in common only the fact that they involve an initial labial followed by two vowels. Items 119–122 form a compact group in which we seem to discover the stem **bo** increased by **e** and it may be possible to include therewith 128 **wŏe**. In 123–125 we find **bo** increased by **i**. These two increments are found applied to a modified stem **bu** in the case of **e** in 126 and 129, **i** in 127. In 130–132 we find a group of the same increments applied to a **ba** base. Items 135, 137–138 fall together into one group, 136 and 139 into another, which have a resemblance to **bo**, although proof of association eludes our search.

The multiplicity of uncouth names in the linguistic tabulation is the record of a geography all unknown save to a few specialists. It is advisable to present the results of this investigation in terms of such geography as find record on the charts. Briefly, therefore, I note the principal locations of each of the major stems found in this research.

puaka *type.*—Polynesia *passim*, Rubiana of the Solomons on the Samoa stream, Lifu and Nengone (New Caledonia and Loyalties) in deflection from the Viti stream.

pakasi *type.*—New Hebrides on the Viti stream, Bismarck Archipelago if **voko** be accepted as of this type.

boro *type.*—New Guinea, Bismarck Archipelago, Solomon Islands.

bo *type.*—New Guinea, Solomon Islands, Banks group.

In view of the social importance of the pig of Melanesia we shall serve an end of convenience by collating the references thereto scattered through the great work by Rivers, from which we have already made a valuable citation. The references are to "The History of Melanesian Society."

The Ronalung group (Merlav, Banks Group) is connected with Merig through a woman of that island who saw a bird give birth to a girl child in a nut tree (*ngai*). The woman looked after the girl and also had children of her own. One of these children came to Merlav and went to the village of Vanmisi, where she married. One of her sows went one day to a place called Ronalung and there gave birth to a girl who is the ancestress of the Ronalung (social) division. Though the people are thus connected with Merig, it is not from the woman of that island, but from the pig that they are believed to be descended (I 25).

In Merlav when a man dies his wife's brother gives money and pigs to the relatives of the dead man and helps to support his widow (I 43). A marriage is usually negotiated by a third party, who arranges the amount which shall be paid by the bridegroom to the relatives of the bride. In one case of which I was told in Rowa (Banks Group) the amount so paid was 60 fathoms of shell money and 2 pigs (I 49).

(Ceremony of initiation into the fraternity of Sukwe in Mota.) If he consented John would announce that Mark would "*wusulie* about *Kwatagiav.*" Then Mark would bring a pig and tie it to a stake near the door of the *gamal.* Some man would blow a conch shell five times, three long continuous blasts and two interrupted blasts, upon which Mark would smack (*wusulie*)

the pig on the back, a man standing by saying, "Let Mark now smack the pig for *Kwatagiav*." The pig then becomes the property of John (I 64).

(Another initiation ceremony.) The pigs had already been handed over and the payments of money were being made (I 70).

(Initiation.) Thirty-seven people contributed altogether, their amounts varying from 1 to 12 fathoms, three also giving pigs (I 71).

(Initiation.) To the man who fetched the cycas trees Charles gave a pig and the 2 extra fathoms (I 73).

(Initiation.) After dancing for about 5 minutes Charles put the measuring rods against the thatch of the house and went to bring three stout pointed posts, which he stuck in the ground in a row on one side of the dancing ground, the posts being about 4 feet apart. Then from a shed he brought a very fine pig, which he tied to post No. 1, and then taking up the measuring rods, danced again. After a few turns he again put down the rods and fetched a second pig, which he tied to the second post. He danced again without the rods and then brought a pig to tie to the third post. Two more posts were then erected and two pigs were tied to these. Then Charles himself brought a sixth post and tied another pig to it and again danced, but now with a pig's jawbone in his left hand and the measuring rods in his right, and after a few turns he went into the house. Abraham, the old man who was "making the *Sukwe*," then set up two stakes close by the *gamal* and Charles came out of the house with 7 fathoms of money in his right hand, and taking up the pig's jawbone in his left hand, he danced again a few turns. A woman, belonging to the village of the dancing party, then came and stood in the dancing ground near the house and Charles laid the 7 fathoms of money over her left shoulder. Three of the fathoms were to repay money she had given to the dancers, a tenth of a fathom to each, while the other 4 fathoms were given in addition. When he had given the money Charles again took the measuring rods and danced. A man then brought out three more pigs and tied two to the stakes set up by Abraham and the third to a cycas tree near the *gamal* and then Charles went on dancing. When he ceased Abraham put a leaf of the tree-fern in the thatch under the eaves of the house just over the doorway, and then went to the dancers and received from one of them a bow and arrow, which he carried into the house. Charles then danced again, holding 4 fathoms of money in his right hand and the pig's jawbone in the left, and when he stopped a small boy, whom Charles called *mak*, came from the dancing party and Charles laid over his head the 4 fathoms, so that one end of the string of money hung over his face and the other down his back. The boy had helped to hire the dancers and had paid them 2 fathoms and he received the other 2 fathoms as interest on his outlay. . . . The dancers were then told to continue and Abraham and Charles again danced, the former now holding the arrow in his right and the bow in his left hand. Both men then stood by pigs Nos. 7 and 8 and Abraham slapped them in succession on the back, speaking to Charles as he did so, and then both danced again. Then Abraham fitted his arrow to the string of his bow and drew his bow to shoot the pig No. 9, but Charles laid his hand on his arm to stop him. The pig was to be killed for a feast, but as the next day was Sunday the killing was to be deferred to the following week. Charles then went on dancing alone with the jawbone and the measuring rods and then sat down to rest in the shade near his house. . . . At a period in the song of the dancers the kava roots were laid on the ground by the side of pig No. 2. . . . Six men then stood outside the *gamal* with conch shells and blew fourteen or fifteen times, blowing "for the pigs and for the money." As they blew Charles and his father Alfred stood by the pigs Nos. 5, 4, 1, 2, 3, and 6 and both smacked the backs

of the pigs in succession one after the other. . . . The conch shells were handed into the *gamal*, but probably by mistake, for they were at once passed out again and blown while Charles brought out another pig and handed it by the thong to Abraham and then danced again with the jawbone in his hand. Abraham then carried the money and measuring rods into the house, and coming out again loosed pigs Nos. 3 and 4, which were taken away. The pig which should have been shot was also taken away to be kept for the feast, and as it was led away the dancers danced behind it and thus made their exit from the dancing ground. . . . Abraham took away the remaining pigs, which became his property (I 73).

Anyone who wishes to visit the tabooed place to fish or fetch food has to pay a large sum of money to the man whose signs of rank they are. This payment removes the *tapu*, upon which occasion the owner has to kill a pig and make a feast for all the members of the *Sukwe* who belong to the same rank as himself (I 77).

(Initiation, Motlav.) The head of a pig with tusks is put down on the mat in front of the child. . . . An old man now blows the conch shell four times and at the end of each blast the child takes a stone and puts it down on the top of the head of the pig. . . . The child is now called *nat vuhe rau*. . . . All the women who have taken part in this ceremony call the child (or man) *nat* or *natui*, child, while he calls them *vev* or *vev vuhe rau* (Motlav) or *veve vus rawe* (Mota), this meaning "mother, strike (or kill) hermaphrodite pig." The child or man may not marry any of these women and sexual relations between them would be regarded very severely (I 80).

(Initiation.) The money which the candidate collects is paid to this introducer, who has in turn to provide a pig. Before this pig is killed it is laid on its back with its legs stretched out, and each man who is to be initiated stamps once with either right or left foot on the breast of the animal, which is then killed and eaten. For the unimportant societies which can be entered by those who have not eaten in the *gamal*, pigeons may take the place of the pig (I 88).

A man must not cut or use in any way a plant which is the badge of a society to which he does not belong, the penalty being the fine of a pig to the members of the society whose badge he has used (I 93). A mistake made during the production of the *werewere* sound is visited very severely on the performer. He has to pay a tusked pig, and if he can not provide it himself his relatives have to do so for him. We were told that in the old days a man who could not expiate the offense with a pig was hanged, the regular method of inflicting the death punishment in the *salagoro* (I 98).

(Initiation.) A man wishing to join the society gives a pig (*rawe*) to someone already initiated, and in doing so would smack the animal on the back just as in initiation into the *gamal*, a man blowing a conch shell and saying "Let X now smack the back of the pig." . . . The introducer gives back a pig of the ordinary kind, which is known as his answer. The candidate has then to give six other pigs to six men already initiated (I 98). Each of the men who have been given pigs takes 3 yards of money to the *salagoro* which he represents. . . . The nuts are eaten and the milk drunk, and those who have eaten may not leave the village till each has received a fathom of money from the recipients of the pigs (I 100).

All the food cooked for the *talasa* feast must be eaten; if anyone allows this food to drop from his hand he has to pay a heavy fine of a pig or money. *Salagoro* food is never given to the pigs (I 105). After the *talasa* feast the skulls or jawbones of the pigs which have been killed are put up in trees or on stakes called *palako* as memorials of the occasion (I 106).

The legend of the *Tamate liwoa* of Petanpatapata on Vanua Lava is told at length. It involves the offer of the bride-piece for a girl by a line of suitors, a typical statement being, "So he took a well-tusked boar and a *rawe* with tusks and a hundred fathoms of money." A note supplies the information that the *rawe* is "a special kind of pig said to be hermaphrodite, with large tusks" (I 107).

There are other conditions which influence the act of joining the *Tamate* societies, some acting as obstacles and others as motives. Of the former one very important is that a man must liquidate his debts before he can be initiated, and this must be done with money, pigs not being sufficient (I 122).

A very efficient obstacle is the difficulty of getting anyone already a member to undertake the duty of acting as introducer. When a man enters a society he has to obtain the services of a member to whom he gives money, the native expression being that he has to *tiro mun* this man. Though the introducer receives money from the initiate, he has to give a pig, or pigs if more than one man is initiated. If a man has only one good pig he will not consent to act as introducer, because a consequence would be the loss of this pig. This is so well recognized that a man who is known to be so situated will not be asked to act. If, on the other hand, a man has a pig which is a fence jumper, yam eater, or a public nuisance, he will be only too glad to act as introducer and thus get rid of the animal with profit (I 123).

The disputers would have to pay fines of pigs to those societies the names of which had been taken in vain (I 124).

In all these cases payments of pigs or money or both appear to be the most important features of the initiations (I 131).

The chief features of the *kolekole* are the dance, the killing of pigs, and the payments to those who participate, and everyone will try to excel his neighbor in the splendor of the dance, the number of the slaughtered pigs, and the liberality of payment (I 132).

There are similar rites (magic) to increase the supply of pigs, fish, and flying foxes. In order to promote the fertility of pigs a special stone is buried (I 163).

(Arag, New Hebrides.) Members of the Subwe moiety (social) call the Tagaro people *matan dura* (sow) (I 191).

(Arag.) The man who wishes to marry settles with the parents of the girl how many pigs he will give and it is arranged in how many days he shall be ready with them. . . . Only the brothers and the sister's son of the father are to get the pigs which the bridegroom is about to present (I 207). The father gives her one of his own pigs to kill as a sign that it is the last of his property with which she will have anything to do. She kills the pig with a club and is then again wrapped up in her mat. One of the husband's party is then deputed to fetch the pig, this duty being regarded as a high honor. A relative of the father stands over the animal to resist its being taken, but the man of the husband's party has only to succeed in touching its body for the resistance to cease, when the pig is cut up and the parts distributed. The bridegroom takes the head, which he gives to some bachelor of his party. The man who is given the head in this manner may not marry a widow, but must marry a girl not previously married. . . . When the husband's village is reached, the girl, still wrapped up, is put down in the open space of the village and the husband presents pigs to the father, at least four being given, and if the husband is an important man more than this number. . . . Then the father of the girl distributes the four pigs he had received to his brothers and to his sister's son (I 208).

(Arag.) The names of women have similar prefixes which denote differences of rank, but it was said that the rank is acquired altogether by the killing of pigs (I 210).

(Santa Cruz.) The father's sister gives a pig for the feast, which takes place when the child's ears are bored (I 222).

(Vanikoro.) Those who offend (the marriage rules) have to pay turtle shell and pigs (I 225.)

(Guadalcanar.) He offers (to the *naroha* bird) food in the form of pudding, as well as fish, pork, and tobacco, and the bird gives him the *mana*, which enables him to kill his enemy (I 243).

(Fiji.) The Wailevu also planted food and had in addition the special privilege of eating the pig's head, usually the perquisite of warriors (I 272).

(Tikopia.) There are no pigs on the island (I 333).

(Tikopia.) Dillon and Dumont d'Urville state that the people at one time had pigs and fowls, but had destroyed them on account of the harm done to their gardens (I 353).

(Arag.) The husband gives pigs, but he receives in return property from the relatives of his wife. It is, however, doubtful whether this gift of pigs from the man is to be regarded as purchase; it is more probable that it is one of those incidents which has formed the starting point of marriage by purchase rather than actual purchase itself (II 105).

(Banks Group.) It is the custom to give pigs and money for a wife, but probably only for a wife other than the widow of the mother's brother. If I am right in supposing that a man only gives pigs and money for his wife when the woman he marries is other than his uncle's widow, the most natural explanation is that these payments correspond to the gift of the Arag bridegroom, but have developed into an organized system of payment for a bride (II 108).

(Ambrym.) The giving of pigs is an essential part of the ceremonies of initiation or of raising in rank (II 228.)

(Malekula.) A man receives a new name on each rise in rank; each of these occasions is accompanied by the killing of pigs (II 229).

Eastern Polynesia: (Arioi.) The societies were entered by a process of initiation, and both initiation and raising to a higher rank were accompanied by ceremonies of which the offering of a pig formed an essential part (II 242).

The prominence of the pig in the ritual of the secret organizations suggests that it may have been introduced by the people who founded these organizations. If so it becomes natural that the pig's jawbone should be used as money in the Torres Islands and that this object should be prominent in the dances connected with initiation into one of the higher ranks of the *Sukwe*. It may be noted that it is not only in the secret organizations of Melanesia that the pig is important, but it also takes an important place in the ritual of initiation into the Arioi societies of Polynesia (II 460).

(New Britain.) A new member is allowed to see the bullroarer on payment of a pig, and by means of a second pig obtains admission to the dance (II 512).

(New Britain.) Note of the employment of stone statues of the pig in the Ingiet society (II 517) and the magical use of the pig in the conjurations of the society (II 521).

The chief material objects which I have been led to ascribe to the kava-people are the following: kava, shell money, the pig and fowl, the bow and arrow, the wooden gong, the conch shell, the fillet, and the cycas tree (II 533).

(New Britain: Sulka.) The only restriction on food of which we know is that certain men and women may not eat the flesh of the pig, but this

practice does not appear to be hereditary, a mother settling whether her child shall or shall not observe the restriction (II 538).

(New Ireland: Siara.) The dog and pig are also totems (II 543).

(New Hanover.) The snake, lizard, shark, dolphin, and pig (in carved masks) represent malignant beings (II 545).

(San Cristoval.) When a pig is sacrificed in this island a bit of the flesh is burnt upon a stone and the blood of the pig is poured upon the fire (II 546).

77. **râĭn** drinking water.

REFERENCES: Melanesische Wanderstrasse, 143: 163. Polynesian Wanderings, 396

POLYNESIAN.

lanu	Samoa, Tonga, Futuna.	**ranu**	Mangareva.
fakalanu	Tonga, Niuē, Futuna.	**fa'alanu**	Samoa.
ndranu	Viti.		

MELANESIAN.

1. **danum**	Tobadi.	14. **ren**	Marshalls.
2. **dânĭm**	Munuwai, Lochagon, Lakurumau, Nemassalang, Lawu, Fezoa.	15. **dăn**	Suralil, Nokon, Wogeo.
		16. **ndăn**	Limba, Langanie.
		17. **ĕ–ndan**	Tegarot.
3. **dâmun**	Pororan, Petat, Hanahán.	18. **râĭn**	Sissano, Arop.
4. **dânim**	Molot, Kalangor.	19. **rĕĕn**	Tumleo.
5. **a–ndanîm**	Kait.	20. **rĭĕn**	Tumleo.
6. **ranu**	Motu.	21. **rieng**	Paup, Seleo, Yakomul.
7. **rani**	Tanna.	22. **râĭ**	Malol.
8. **râmún**	Hamatana.	23. **mi–nda**	Kowamerara, Sigab, Tatau, Marei, Simberi.
9. **nâru**	Vitu.		
10. **nalu**	Galoma.	24. **ta**	Bissapu.
11. **nanu**	Sinaugoro, Hula, Keapara, Rubi.	25. **tă**	Lalinau.
		26. **tá–va**	Kabakaul, Raluana, Matupí, Ratawul.
12. **ran**	Suein, Efaté, Mortlocks.		
13. **răn**	Uap, Gilberts.	27. **tach**	Namarodu.

The definition drinking water is somewhat too specific. It is more likely that the stem **lanu** is descriptive of a quality found in water such as may be used for drinking and for washing. The lavatory use predominates in the Polynesian occurrences of the stem, where **fakalanu** particularizes the washing with sweet water after bathing in sea-water, for the salinity of the tropical Pacific sea is so high that evaporation leaves the skin covered with fine crystals which are inconvenient. The noun in Viti **waidranu** determines this descriptive quality of the **lanu** stem, for it is a compaction of **wai**, the common word for water, and of **lanu**, and as a compaction has the sense fresh water. The **vai** stem is of such wide application to all waters and to other liquids as to warrant the belief that its original sense was fluid. In the Polynesian it is necessary to add another element when one would express the sense of potable water, the type being the Samoan **sua-vai**. This element **sua** recurs with other names of fluids, **sua-susu** milk when used as a beverage, **sua-niu** the water of the green coconut. In Melanesia the **lanu** stem appears sometimes in place of **vai** and sometimes side by side with it.

In the study of this suite of forms we are under the necessity of examining at the outset the effect of metathesis, a phonetic principle peculiarly frequent in this stem. This principle needs close study before we can assume to comprehend the phonetic motive of its application, but its mechanics are simple. In an earlier work (Easter Island, page 26) I have made the beginning of an examination of the theme, and at present I am not justified in advancing beyond the results there set forth. The most that has been done is to devise a system for the record, and eventually for the comparative study, of vocables in which metathesis is discoverable. In that examination sufficient material was available to establish the fact that metathesis can be consonantal or vocalic. The device for establishing the types of metathesis is of extreme simplicity in the languages of open structure and may be made to serve for the closed syllables also. In this scheme A is employed to designate the vowel of the first syllable. whatever it may be, E the vowel of the second, I of the third, and so on; B is employed to designate the initial consonant of the first syllable, C of the second, and so on.

In the first group of metatheses which we encounter in this suite we find the change applied to the stem **lanu.** This will be represented in the record scheme by the type BACE. The metathetic form is of the simplest and numerically most frequent type represented by the type CABE, in which the vowels of the stem remain fixed, the initial consonants of the syllables interchange places. Thus we find 10 **nalu,** by a slight and familiar liquid mutation 9 **naru** and by a scarcely less frequent mutation 11 **nanu.** Friederici notes the possibility, it seems to him highly probable, that these forms are derivative from **ngalu,** the common Polynesian word for wave and particularly breaker; to me it seems far more reasonable to regard these as metatheses upon **lanu.** The second group consists of variants upon the closed stem **danum.** In my earlier examination of the principle it was not necessary to take into consideration the forms of closed syllables, for that work was concerned solely with the open Polynesian languages. The closed syllable may readily be represented by the employment of a typographically varied symbol of the same order as the initial consonant; thus **meto** is of the type BACE, and **mento** would become BA*b*CE and **meton** would become BACE*c*. The closed stem **danum** is of the type BACE*c*; by metathesis to the type BA*c*EC we find 3 **dámŭn;** from stem 2 **dáně̆m,** subjected to a simple vocalic mutation, we find 4 **dánim;** and from a stem **ranum,** which we may properly interpolate on the strength of the occurrence of 6 **ranu,** we find 8 **rámún.** Provisionally we observe that metathesis in the closed syllable is accomplished through the interchange of the former with the latter consonant. This is provisional, adopted only for mechanical convenience.

I am not prepared to state that closed syllables are primordial. My hypothesis of the evolution of speech by the application of consonantal modulants leads more and more distinctly to the belief that the earliest employment of consonants was their initial application to the vowels. Of course it is not beyond the bounds of possibility that a later stage of development hit upon the device of adding a final consonant. At present it is not feasible to determine that point. However, we have many instances in which a stem now open in Polynesian appears closed in many Melanesian languages through the presence of a final consonant and that, in its turn, is clearly a development through abrasion from a former open stem. For an example of this we need look no further than the next preceding item (76 **pul**) where, in items 3–11, we have the series **pakasi—mpokas—puka.** Much study must be put upon this problem before we can arrive at a satisfactory determination; here I do no more than note the possibility that closed stems have arisen through final abrasion of the vowel of an added open syllable. Along this line of reasoning **danum** is not to be represented by BAC**ę***c* but as BAC**ę**D(I) and the metathetic **damun** is not BA*c***ę**C but BAD**ę**C(I); this signifies that all consonantal metathesis consists solely of the interchange of initial consonants of succeeding syllables.

Having cleared away the complications introduced by the metathesis the series runs for some distance with satisfactory smoothness. Items 1–5 exhibit the closed **ranum** type, and in 2, 4, and 5 we note the mutation **u–i** in the latter syllable, and to this series belongs 8 **rámún.** Items 6, 7, 9–11 exhibit the open **ranu** type with the **u–i** mutation in 7. From 12 to 17 we find readily comprehensible variants of the **ran** type, merely **ranu** which has undergone final abrasion of vowel to be adjusted to speech in which the closed type is preferred. This is evidential that the stem was introduced to these regions by folk who employed **ranu** and from whose memory had passed the recollection of an earlier, if indeed earlier, stem **danum** or **ranum** (?). The **r–d** mutation is frequent in these languages; in this series it is found in 1–5, 15–17. At this point I have inserted the distinctly northern New Guinea type 18–22, in which we recognize a **ran** type with that duplication of vowels which we note in speech of this particular group and whose explanation we are not yet far enough advanced in the knowledge of the linguistics of the region to comprehend. The items 23–27 may stand as of the **ran** type after yet further final abrasion. The Namarodu 27 **tach** is anomalous in the assumption of a final palatal; we note that Friederici reports it as less positive than the palatal of German *nach.* The form 26 **ta-va,** somewhat widely diffused on the Gazelle Peninsula in New Britain, is explained by this author as a compaction of the water words **ranu** and **vai.** In this explanation it corresponds to the Viti **wai-dranu** already mentioned, but the elements are set in different order.

80. **rebín** testes, spirit.

REFERENCES: Deutsch-Neuguinea, 229. Melanesische Wanderstrasse, 100: 67.

laben Siar, Garget (testes).

This stem is a thin inclusion within the territory of the more frequent **laso** stem. It is not identified in Indonesia, nor have we any record of its appearance elsewhere in Melanesia. Its occurrence is limited to Astrolabe Bay and the Sissano lagoons on the north shore of New Guinea.

88. **sel** stone.

Note has already been made of the apparent association of **sel** with 34 **el** the stone axe. Our Sissano material is too slight to admit of extended discussion, yet in so many of these languages the **s–h** mutation has been traced as far as extinction of the initial consonant that it is not unreasonable to assume its existence here. See note on page 12 relative to the sago pounder.

91. **suk** nose.

REFERENCES: Melanesische Wanderstrasse, 118: 104. Codrington, 48: 46. Ray, 404: 97, 495: 97. Polynesian Wanderings, 348. Subanu, 119.

POLYNESIAN.

isu Samoa, Futuna, Fakaofo, Aniwa, Manahiki, Nuguria, Fotuna, Rotumā.
ishu Moiki.
iu Rarotonga.
ihu Tonga, Niuē, Uvea, Maori, Tahiti, Hawaii, Marquesas, Mangareva, Paumotu, Rapanui, Tongarewa, Nukuoro.
ushu Kapingamarangi.
udhu Viti.

MELANESIAN.

1. **is'u** Mugula.
2. **isu** Suau, Sariba, Tubetube, Adaua.
3. **izu** Roro.
4. **izun** Siassi.
5. **ishuda** Bonarua.
6. **idu** Pokau.
7. **itu** Roro, Kabadi.
8. **iru** Hula, Galoma, Rubi, Vitu.
9. **ilu** Sinaugoro, Keapara.
10. **ihu** Ngela, Bugotu.
11. **iu** Raqa, Oiun.
12. **wesu** Buka.
13. **uies** Buka.
14. **ngisu** Sesake, Epi.
15. **in-gidjin** Aneityum.
16. **nisung** Nokón.
17. **kinihu** Bierian.
18. **nehu** Nggao.
19. **niu** Awalama, Taupota, Mukawa.
20. **lisui** Maewo.
21. **barisu** Wango.
22. **usu** Efaté, Rook.
23. **usung** Jabim.
24. **uzum** Siassi.
25. **udu** Motu.
26. **osu** Buka.
27. **ngusu** Efaté.
28. **guhu** Ambrym.
29. **sunu** Baki.
30. **lusu** Tami.
31. **barusu** Fagani.
32. **palusu** Ulawa, Bululaha.
33. **pwalusu** Saa.
34. **ngore** Efaté.
35. **ngongora** Alite.
36. **nunura** Barriai, Kobe.
37. **soku** Jibu.
38. **ururu** Doura.

As earlier pointed out in former studies of this interesting series of vocables, I am disposed to recognize the persistence of a primal stem **su** of some manner of application to the lower part of the human and simian face, to the anterior face of other animals, limited and particularized in its application to the naso-mandibular region. In

languages of the plane of development occupied by the Polynesian we find a differentiation of two parts of the naso-mandibular region, **isu** the nose, **gutu** the mouth. Yet in the less-advanced thought of Melanesia we find in many instances that the two organs have not yet been permanently differentiated and that one or other of these accretion forms does duty indifferently for mouth or nose. A similar diffusion obtains in English snout and German *schnauze*. We do not encounter this primal **su** short of Sissano; it recurs in Indonesia among the Subanu, a people not distinctly superior in culture, as **soong**.

The Polynesian shows in its determinant forms **isu** and **gutu** a formal distinction of the earlier vowel to separate the nose vocable from the mouth vocable. Yet Viti **udhu** shows that this is not wholly constant, for **udhu**, clearly a mutant of **usu**, is employed in the sense of **isu**; and an intermediary form, **ushu** of Kapingamarangi, is of great significance. The two types, **i** and **u**, interlace throughout Melanesia without distinction of sense; our knowledge of none of this material is yet so intimate as to admit of the determination whether the two words interchange as vocables or whether the two organs have not yet been particularized for specific naming. In the foregoing tabulation items 1–21 are of the **i** series, 22–33 of the **u** series. Except for 13 **uies** and 15 **in–gidjin**, the latter vowel, which I assume to be the vowel of the primal stem **su**, remains constant. Regarding **uies** in conjunction with 12 **wesu**, reported from the same island, we have no difficulty in regarding it as a variant of **wesu** after abrasion of the final vowel. Aneityum is so crabbed in speech that we are very chary about the establishment of derivations which involve the action of mutation principles based upon our material from that speech alone. It is possible that **gidjin** is an **isu** derivative; there is sufficient resemblance to warrant its inclusion in the series, but its anomalies must not be admitted to the argument.

Before discussing the extrinsic modulation elements we shall best examine the suite of the **s** of the primal stem **su**. It remains unaltered in items 1, 2, 12–14, 16, 20–23, 26–27, 29–33. It passes to **z** in 3–4, 24; to **sh** in 5, as in Polynesian Moiki and Kapingamarangi; to the mutes, **d** in 6 and 25, **t** in 7. These are all mutations downward in the lingual series, from weak to strong. There is also mutation upward, progressive weakening. It passes from sibilant to aspirate in 10, 17–18, 28; it passes to the liquids, **r** in 8, **l** in 9; it becomes extinct, probably through the aspiration, in 11 and 19.

We find the advanced stems **isu** and **usu** modified by consonant prefaces. The preface most frequent in employment is nasal, the lingual **n** of the same series as the stem consonant **s**, this being found in 16–19 and 29, for the CABE metathesis **nusu–sunu** is clear; the palatal **ng** is found in 14 and 27, from the latter of which 28 **guhu** depends,

either through the ng–g mutation, or else in Ambrym, as in so many cases in the Pacific g is employed to represent ng. A liquid preface gives an interesting series both for isu and for usu; in 20 lisui we find it employed upon isu with a terminal addition, in 30 lusu we find it employed with usu; each of these secondary compactions undergoes further distinction with an element which is found as ba in 21 and 31, as pa in 32, and in 33 is affected by the Melanesian difficulty in enunciation of the labials. We find another preface syllable ki in 17 kinihu. A terminal syllable makes its appearance in 5 ishuda. Final consonants occur. Sissano suk suggests the inclusion of 37 soku in the derivation chain; final ng is found in 16 and 23, final n in 4, final m in 24. The Efaté 34 ngore introduces us to a small and interesting group. I am not prepared to pass upon the affiliation of this group with the su stem; yet if we start with 27 ngusu, also from Efaté, we find in 26 osu warrant for the o and in 8 iru warrant for the r. It is, however, quite clear that 35 and 36 are associable with ngore and perhaps the same is true of 38.

94. **taméng** woman.

References: Melanesische Wanderstrasse, 145. Deutsch-Neuguinea, 216.

1. **tămén** Tumleo.
2. **tămíng** Paup, Yakomul.
3. **támine** Kobe.

Friederici includes these forms within the series of fine woman, but I am unable to establish the chain of affiliation through which such association might be settled. This stem recurs with slight phonetic variety in 54 lon-tamín sister and in 119 wun-damin wife.

97. **tapo** crocodile.

References: Melanesische Wanderstrasse, 112*c*.

tapū Sēr.

Friederici records these two forms after discussion of the widely disseminated bua crocodile, and the passage deserves citation in full.

Zu erwähnen sind dann noch zwei Worte, die wieder zeigen, dass ein gewisser Zusammenhang zwischen den Melanesiern des Westteils der Nordküste von Kaiser-Wilhelmsland und der Gegend der Tabar-Inseln und von Limba und Langanie (Neu-Mecklenburg) besteht. Denn wir haben in: Sēr: **tapú**; Sissano: **tapó**; Tumleo: **aléŏ**; Paup: **alúŏ**; Yakomul: **ălíŭ**; Kowamerara (Tabar-Ins.): **mi-lówa**; Tatua (ebenda): **mi-kópo**; Limba und Langanie: **láŭă**.

In the material here assembled I find myself unable to trace the interassociation which Friederici postulates. No more is it possible to adjust even so congruent a pair of vocables as Sēr-Sissano with the general bua type.

99. **tenan** mother.

REFERENCES: Melanesische Wanderstrasse, 118: 100. Deutsch-Neuguinea, 213:128. Codrington, 47: 43. Ray, 403: 90, 494: 90. Subanu, 146.

POLYNESIAN.

tinā Samoa.
tina Viti.
tinana Futuna, Sikaiana.
tinga Fotuna.
jina Tonga.
kina Liuaniua.

MELANESIAN.

1. **tiná** Graget.
2. **tina** Maleu, Nakanai, Marina, Vaturanga, Ngela, New Georgia, Rubi, Tagula.
3. **tinan** Ninigo, Sărán, Siar.
4. **tínang** Leut.
5. **tínŏ** Jabim.
6. **tínong** Umre.
7. **tsitsina-nggu** Vitu.
8. **tna** Barriai.
9. **retne** Vuras.
10. **tĕna** Jabim.
11. **dina** Tami, Bukaua.
12. **dinemi** Eromanga.
13. **dĕna** Jabim.
14. **zina** Uni.
15. **sina** Pokau, Doura, Motu, Sinaugoro, Suau, Sariba, Tubetube, Nada, Dobu, Mukawa.
16. **hina** Panaieti, Tavara, Awalama.
17. **hinana** Roro.
18. **inna** Mekeo.
19. **ina** Wango, Fagani, Hula, Keapara, Galoma, Misima, Murua, Kiriwina, Oiun.
20. **na** Duke of York.
21. **nage** Kilenge.
22. **ine** Koiari.
23. **nene** Nengone, Koita.
24. **nena** Agi, Uberi.
25. **neina** Hagari, Koiari, Maiari, Koita.
26. **neia** Agi, Uberi, Yela.
27. **nia** Yela.

This series exhibits quite clearly a succession of devolution forms based upon the mutation of the initial consonant down to its extinction. In this succesion we find **t** in items 1–10, **d** 11–13, **z** 14, **s** 15, **h** 16–17, extinction 18, 19, 22. In other respects there is little in the first 19 items which calls for notice. The Barriai 8 **tna** is clearly **t(i)na**, and 9 **retne** is a compaction of an unidentified element with a similar elision as **re–t(i)ne**. It is possible that the Duke of York **na** derives from **tina** in its **ina** type by apocope, but when we reach so elemental a word form we may not express a positive determination on its affiliations. It may be that **na–ge** (21) is an evolution of this primitive form. Some confirmation of **na** may be found in the series beginning with 22. The Koiari **ine** is clearly a **tina** derivative from the type **tine**, which we have already seen in 9 **re–t(i)ne**. In languages intimately associated with the Koiari we find the resultant **ne** duplicated in 23 **nene** of the Koita, and with a distant sporadic reappearance in Nengone. The remainder of the suite clearly follows upon our acceptance of the association of **nene** with the **tina** stem. It is interesting to note that this particular suite is found in those languages of New Guinea which have been classed by Ray and others among the Papuan or non-Melanesian. (See page 133.)

100. **tín** penis.

REFERENCES: Deutsch-Neuguinea, 215: 144. Polynesian Wanderings, 431. Subanu, 149.

POLYNESIAN.

uti Viti.
ule Samoa, Tonga, Niuē, Hawaii.
ure Maori, Rapanui, Tahiti, Mangareva, Paumotu.
oe Marquesas.

MELANESIAN.

1. **uti**	Efaté, Eluaue, Emsau, Jabim.	10. **witin**	Siassi.
2. **utid**	Siassi.	11. **gudin**	Tami.
3. **útĭng**	Lihir.	12. **kutíra**	Kilenge.
4. **utine**	Arag.	13. **ut**	Lemusmus, Dyaul.
5. **utíra**	Barriai.	14. **usi**	Motu.
6. **óti**	Ninigo.	15. **usina**	Kabadi.
7. **otin**	Sărán.	16. **usú**	Lalinau.
8. **otine**	Maewo.	17. **us**	Pala.
9. **ne-oti**	Bierian.	18. **ū**	Bongu.

In the Melanesian material we find stems **uti** and **usi**, and we have sufficient instances of the t–s mutation to warrant us in assuming the affiliation. The **uti** stem extends into the Polynesian area only in the single case of Viti. It is possible that Polynesian **ule** might derive from **uti**. Two objections arise: one that the vowel mutation i–e is by no means frequent in the Polynesian fixity of the vowels, the other is that the Polynesian form would then be secondary to the Melanesian, and that is contrary to general observation based upon the most extensive comparative studies.

101. **to** sugar cane.

REFERENCE: Melanesische Wanderstrasse, 147: 176.

POLYNESIAN.

to	Tonga, Niuē, Paumotu, Tahiti, Mangareva, Marquesas.	**tolo**	Samoa, Futuna.
toa	Rapanui.	**toro**	Aniwa.
thou	Rotumā.	**ndovu**	Viti.

MELANESIAN.

1. **to**	Sissano, Wanimo, Leitere, Sēr, Arop, Wogeo, Bilibili, Baung, Ngamat.	13. **tóhĕ**	Hamatana.
		14. **tóhŏ**	Hanahán.
		15. **tohu**	Motu.
2. **ne-to**	Aneityum.	16. **tūra**	Bongu.
3. **do**	Tami.	17. **tóvu**	Vitu, Marei, Simberi, Burruwe.
4. **tou**	Malo, Mota, Siassi.		
5. **tŏŭ**	Graget, Longa, Iapa, Mórobe.	18. **tuf**	Lauan, Nonapai, Lakurefanga, Sali, Lemakot.
6. **tăŭ**	Paup.		
7. **teu**	Rook.	19. **a-tuch**	Bissapu, Punam, Nokon.
8. **tĕŭ**	Yakomul.	20. **ĕb-tóch**	Lamassa.
9. **tŭŏ**	Pāk.	21. **utóch**	Petat.
10. **tu**	Tumleo, Bagail, Majum, Avelus, Lossuk, Mongai, Lemusmus, Limba, Langanie, Belik.	22. **top**	Siassi
		23. **tŭp**	King, Kait.
		24. **a-rŏf**	Mununwai, Nemassalang, Fezoa.
11. **te**	Jabim.	25. **a-rŭf**	Lakurumau, Panangai, Lawu.
12. **ti**	Jabim.		

The examination of the Polynesian material exhibits the **to** stem and three variants, accretion by a vowel and by an added syllable beginning with a liquid and with a labial respectively. The simple stem and all these variants and none other we find in the Melanesian material.

The initial consonant undergoes mutation only in 3 **do**, the simplest of all mutations. The vowel of the simple stem becomes **u** in a number

of languages; the less regular mutation to e and i appears only in Jabim in items 11 and 12. Accretion through a liquid is rare in the Polynesian series, being found only in Samoa and Futuna; we recognize it in Melanesia only in the single instance of 16 **tūra**, and this with some hesitation, for while we may support the o–u mutation on the strength of 10 **tu** the vowel of the second syllable appears only this once as **a**. Accretion through a labial is unmistakable in 17, 18, 22–25, and the palatal in 19–21 comes into the series as labial by reason of Friederici's note that the **ch** has almost the **f** sound. In 17 **tóvu** we have the affiliate of Viti **ndovu**.

In the aspirate forms 13–15 we may discover a transition stage in the direction of the forms where the accretion is but a vowel without consonant introduction. The mutation from the labials to an aspirate proximate to that series is of considerable frequency; the dropping of the aspirate is even more frequent; thus we find a simple series from 17 **tovu** through 15 **tohu** to 4 and 5 **tou**. Thus linking items 4–9 into the system we find progressive vowel alterations including the transposition in 9 **túŏ**. It is not altogether certain that the two forms 24 and 25 which involve the **t–r** mutation are derivatives from this stem, yet the mutation is not unknown and 18 **tuf** provides a ready point of departure.

102. **tūr** arrow.

REFERENCE: Deutsch-Neuguinea, 131*d*.

1. **tū**	Graget.	10. **atôr**	Paup.
2. **tu**	Siar.	11. **tătûr**	Tumleo, Dákur, Suèn.
3. **ang-du**	Bogadjim.	12. **tŏtôr**	Wogeo.
4. **nsu**	Tami.	13. **tĕtôr**	Muschu.
5. **mă-tó**	Tisasí.	14. **tătŭár**	Dákūr.
6. **tun**	Langtub.	15. **tŏtúăl**	Put.
7. **na-túm**	Kilenge.	16. **tulúch**	Nissan.
8. **tunga**	Kopoam.	17. **toto**	Bawaipa.
9. **tūr**	Sēr, Sissano, Arop, Malol.	18. **doso**	Nupanob.

Lacking comparable forms in Polynesia and in Indonesia, it will be idle to pursue this series exhaustively. The items are arranged in such order as has suggested itself and it might be possible to establish one or more series of affiliates. So far as relates to these studies the presentation of the record suffices. In the next vocable, 104 **turíĕn** bow, the presence of **tūr** is unmistakable.

105. **ull** breadfruit.

REFERENCE: Melanesische Wanderstrasse, 80 (1).

POLYNESIAN.

ulu	Aniwa, Nuguria.	**kulu**	Rarotonga.
'ulu	Samoa.	**kuru**	Mangareva, Nuguria, Aniwa, Sikaiana, Kapingamarangi.
uru	Tahiti.		
ul	Rotumā.	**uhu**	Liuaniua.

MELANESIAN.

1. **ul**	Ninigo, Arop.	18. **fal**	Afur.
2. **ŭl**	Graget.	19. **wul**	Paup, Yakomul.
3. **ūl**	Karkar.	20. **un**	Siassi, Barriai.
4. **ull**	Sissano.	21. **on**	Lifu, Mare.
5. **ūll**	Sēr.	22. **ongoi**	Mekeo.
6. **ăúl**	Tumleo.	23. **unu**	Motu, Galoma, Rubi, Dobu, Kobe.
7. **ur**	Nufoor.		
8. **úri**	Tobadi.	24. **unuri**	Suau.
9. **yal**	Vrinágol, Tsinapäli, Akur.	25. **kun**	Kilenge.
10. **úle**	Bilibili.	26. **kŭn**	Siassi.
11. **úlú**	Eluaue, Emsau.	27. **kunu**	Mugula.
12. **ū**	Jabim.	28. **kunori**	Wedau.
13. **kul**	Wogeo.	29. **gŭn**	Nayama.
14. **kŭl**	Paluan, Lou, Moánus.	30. **gunu**	Sinaugoro, Hula, Keapara.
15. **kulu**	Vitu.	31. **wŏn**	Nokon, Muschu.
16. **gŭl**	Nayama.	32. **gum**	Tami.
17. **vŏl**	Dallmannhafen.	33. **kumu**	Kiriwina.

Friederici has subjected the breadfruit names to such a searching examination and has drawn a conclusion so brilliant that I hesitate to traverse his conclusions even in a single particular. He establishes four stocks of breadfruit names, the **un**, the **mai**, the **báreo**, and the **be**. Of these the former two follow a parallel and often interlacing course from Indonesia. His **un** stock is traceable from the northwestern tip of Sumatra, through Indonesia, along the north coast of New Guinea, down through Melanesia (its occurrence in Lifu and Mare (21) is at the ultimate Melanesian outpost), thence into Polynesia, as exhibited in the proper section of the foregoing tabulation. His **mai** stock falls within that speech group which, with no great precision, we call Micronesian, is found in the Santa Cruz and New Hebrides groups, and extends into Polynesia. In this inquiry we have to concern ourselves only with the former of these stocks.

I can not find myself in accord with Friederici in naming this the **un** stock. His studies are based upon the Melanesian with a backward gaze upon the Indonesian; this is sufficient to establish the **un** forms in his view as primal. My examination of the identical material is based upon the Polynesian. That group of languages I regard as portative of these elements of the many languages of Indonesia as well as Melanesia; therefore I look upon the **un** stock as secondary and derivative from a Proto-Polynesian, which can have been nothing but **ulu** or **uru** or **kulu-kuru**.

We may not undertake to determine the point whether the initial palatal is primal or has been assumed. The **k** in these oceanic languages is subject to a peculiar movement. At some period whose remoteness we are unable to estimate a tendency to obliterate the **k** was operative in many of the languages of the Pacific tract. It may have been a progressive movement; in some languages ancient, in others more modern. In the Samoan it is clearly but briefly exterior to the beginning of our knowledge. It is now eighty years since the first missionaries made the acquaintance of this speech. They

came equipped for their studies with a practical knowledge of the speech of Tahiti, from which the **k** had then completely dropped out. But when they listened to a word from Samoan lips with which they were familiar in Tahiti they noted a difference in this particular sufficiently great to call for note in recording the new speech. We find an illustration in this breadfruit word, in Tahiti **uru** with a complete abolition of the **k**, but in Samoan they found themselves under some phonetic necessity to particularize attention upon the dropping of the initial and to write the word **'ulu**. The inverted comma is used consistently in the written Samoan to record the absence of that palatal mute.

The phonetic problem is for the most part disregarded by those foreigners who assume to speak some sort of Samoan, yet it is essential to the proper use of the speech and involves no insurmountable difficulty. The vowel introduced by inverted comma, to which has been assigned the name "break," is pronounced as of its proper quality but from the palatal mute position. Effectively the speech organs are set in the position for the production of the **k** and immediately without emitting the **k** sound, pass to the voicing of the vowel. That this is of importance is illustrated by the fact that between **ulu** the head and **'ulu** the breadfruit the only means of distinction is the break. Its presence in Samoan is proof that the dropping of the **k** is most recent. While upon this theme we note the still more modern swing back to the resumption of the palatal mute in pronunciation, but now addressed upon the lingual mute with the result that in written Hawaiian and in spoken Samoan the **t** has been completely replaced by **k**, a phonetic development fitly described as the process of kappation.

The dropping of **k** from a primal **kulu** is thus easily accounted for. It would be more difficult to predicate a primal **ulu** and to account for the assumption by widely sundered peoples of **k** and none other, as shown in items 13–16 and 25–33. The only objection to postulating a primal **kulu** lies in the labial group 17–19 and 31. To pass from palatal to labial is not in the scheme of the mutations of these languages, all the more difficult to consider by reason of the extreme difficulty of using the lips in the most of the Melanesian languages. It is easier to regard these labial forms as sporadically developed from **ulu** as a secondary stage of **kuru**.

In establishing the **un** forms as derivative from **kulu** we encounter no phonetic difficulty, for the **l–n** mutation is abundantly determined. We find confirmation in the close parallelism of the two types of form, **kulu–kunu** 15 and 27, **kul–kun** 13 and 26, **gul–gun** 16 and 29, **ulu–unu** 11 and 23, **ul–un** 1 and 20; the only case in which we do not find a clear parallel is 30 **gunu** for which **gulu** is not yet discovered. Secondary to the **un** type we find in 22 **ongoi** a mutation of **n–ng** as well as a

strong resemblance to the accretion forms 24 and 28 **unuri–kunori**; another secondary form involving the **n–m** mutation is found in 33 **kunu** and 32 **gum**. The two obscure forms 6 **ăŭl** and 9 **yal** seem associable with the labial type already discussed. The former vowel stands at **u** with great consistency; we find a passage to **o** in 21, 22, and 31, to **a** in 9 and 18. For the latter vowel we have scantier record, owing to the common disposition of Melanesian speech toward closed syllables which is sufficiently potent to sacrifice an original final vowel by abrasion; it stands as primal **u** in 11, 15, 23, 24, 27, 30, and 33; it passes to **o** in 22 and 28, to **e** in 10, and to **i** in 8.

107. **vĭti** hand drum.

REFERENCE: Melanesische Wanderstrasse, 89*a*.

1. **bĕtí** Sĕr.
2. **vĭti** Sissano.
3. **vătí** Arop.
4. **vĕtí** Arop.
5. **ătéĭ** Paup.
6. **ătí** Paup, Yakomul.
7. **aití** Tsinapäli, Akur.

We find ourselves concerned here with a small group of New Guinea stock exhibiting readily associable affiliates on a common stem. We are quite unable to trace the stem elsewhere in Melanesia and not at all in the greater areas which lie west and east respectively.

108. **vŏpún** penis calabash.

The linguistic material is lacking whereby we might trace in this character of dress the movement of the peopling of these islands. But the item is so important in its relation to the growth of the clothing attire and exhibits such interesting detail of the beginning of the sense of corporal modesty that I am sure that it will be of service to include here the record of the minute examination made by Friederici:

Es dürfte für einen Ethnologen kaum zweifelhaft sein dass diese Art der Kilenge und Barriai Leute ihr Malo [the common perineal band of the islands] mit hochgebundenem Penis und freiheraushängenden Hoden zu tragen ein Glied jener Entwicklungsreihe bildet zu der auch die Kynodesme gehört und welche wenigstens zum Teil in engen Beziehungen zu jener anderen Reihe steht die durch Penisschutz in irgend einer Form charakterisiert ist. Ich stellte zunächst die Orte fest, soweit meine Kenntnis reicht, wo wir eine ganz ähnliche Trageweise finden wie die in Frage stehende. Da sind zunächst die Bewohner des Mündungsgebiets des Mamberomno, im besonderen des Dorfes Kukundori, die die glans des hochgenommenen Penis zwischen Bauch und eine vielfach um den Leib gewundene Fischleine klemmen. Zu bemerken ist aber dass in dieser Gegend auch Penisschutzvorrichtungen getragen werden in Gestalt von Kokosschalen oder Hülsen (klapperndoppen) und der bekannten Penis-Kalebassen der Angriffshafengegend. Denselben hochgebundenen, vermittelst der langen Vorhaut unter den Gürtel geklemmten Penis, haben wir dann in der Utanata-Gegend, aber auch hier wieder mit der Modifikation dass ein alter Mann gesehen wurde der die glans in ein angebundenes Schneckengehäuse gesteckt hatte. In dieser ganzen Gegend, bei den Tugere und Toro, finden wir diese Mischung; der Penis ist nach oben geholt, ohne oder mit Schnecke, die Hoden hängen in jedem Falle frei und unbedeckt herunter.

Schliesslich haben wir in der Gegend von Port Moresby (Motu) eine Trageweise des Penis, die jener der Barriai und Kilenge sehr ähnlich ist; nur hängen hier die Hoden nicht frei nach rechts heraus, sondern das Scrotum wird durch die T-Binde in zwei Teile geteilt so dass nach jeder Seite eine Hälfte heraushängt. Dass diese Leute auch sonst mannigfach den Bewohnern von West-Neu-Pommern ethnisch nachstehen hatte ich schon einige Male Gelegenheit anzudeuten. Dass endlich diese Trageweise eine Art von Kynodesme bedeutet hat schon Hovorka sehr richtig erkannt, und damit verweise ich auf die Verbreitung der letzteren innerhalb Polynesiens, die ich bereits an einer anderen Stelle zu beleuchten versucht habe.

Schliesslich haben wir eine ganz nahverwandte Erscheinung auf den Hebriden-Inseln Malekula, Tanna und vielleicht auch Ambrym, sowie auf Neu-Caledonien. Aus Gründen des *narak* nach Somerville, oder zum Schutz gegen Schäden nach J. R. Forster, tragen diese Leute bei freihängenden Hoden den Penis fest eingewickelt, mit Schnur oder Band nach oben gezogen und am Gürtel befestigt. Der Penis steckt de facto in einem zylindrischen Penisfutteral, das durch Schnur in Stellung nach oben gehalten wird. Die Parallele mit den Barriai und Kilenge Leuten geht noch insofern weiter, als auch bei den Malekula, Tanna und Neu-Caledonia Leuten durch incisio operiert ist; aber während die Scham der Barriai wo anders sitzt und sie keine Schwierigkeit machen, den incisierten Penis sehen zu lassen, haben die Tanna und Malekula Leute die grösste Scham dies zu tun. Diese ganze in den letzten Absätzen besprochene Sitte, die ganz offenbar früher einmal eine war oder sich aus einer gemeinsamen Wurzel abgeleitet hat, zeigt wieder einmal durch ihre Zahl von Varianten auf einem, ethnologisch betrachtet, räumlich und zeitlich begrenzten Raume, wie nichts im Völkerleben stillsteht, wie alles lebt, sich entwickelt oder zurückgeht, sich verändert zum Fortschritt oder zum Verfall.

Der erste Anblick eines Tanna-Mannes berührt noch viel merkwürdiger als der eines Barriai oder Kilenge. Es nimmt daher nicht Wunder dass die Missionäre diese Leute für nicht "decently" gekleidet erklärt, sondern in dieser Penis-Verhüllung ein "disgusting costume" erblickt haben, obwohl sie in eben demselbes Satz zugeben, dass jene Leute in dieser von ihren Vätern überkommenen Sitte absolut nichts Unanständiges, sondern im Gegenteil etwas durch ihre Anstandsgesetze Gebotenes erblicken. Der Anblick ist allerdings für jemand, der sich nicht den Ruck geben kann, frei von europäischen Vorurteilen an ein Naturvolk heranzutreten, sicherlich an sich nicht ästhetisch, und wirkt auch auf einen Ethnologen dadurch wenig erfreulich, dass die leicht ersetzbaren und daher sauberen Eingeborenen-Stoffe der Zeiten von Cook und Forster gegen schmutzige europäische Lappen ausgewechselt sind, weil diese für wertvoller gehalten werden, nicht so leicht zu ersetzen sind und daher getragen werden, bis sie verfaulen und verfallen.

In Amerika haben wir die richtige Kynodesme bei den Chichimeken von Jalisco, bei den Insel-Karaiben, Warrau in Guayana, in der Provinz Avurra im Cauca-Tal, bei den Mayoruna des Amazonas und bei Anwohnern der Magelhães-Strasse. Den hochgebundenen Penis der Barriai finden wir bei den Paressi Brasiliens.

Kehren wir nun von Neu-Caledonien, von Osten nach Westen, zu einem Ueberblick über die noch nicht genannten Penis-Schutzvorrichtungen zurück, so ergibt sich folgendes: Auf Ulawa, Süd-Salomonen, bemerkte Surville Blätter-Penishüllen, von denen die Expedition Mendaña nichts erwähnt. Auf Emirau wird nach Parkinson neben dem Ovulum ovum auch eine kleine gelbe Kürbisart als Penisbedeckung benutzt; ich habe das nicht bemerkt und sah auch verhältnismässig nur wenige der weissen Ovula. Von der St.

Matthias Gruppe habe ich nur die nach Süden vorgelagerten kleinen Inseln besucht, die Hauptinsel habe ich überhaupt nur betreten um ein Paar Gesteinsproben zu nehmen. Auf den besuchten Inseln nun war das Verhältnis genau wie auf Emirau, nur wenige Leute trugen die Schnecke.

Die nächste Station bilden die Admiralitäts-Inseln. Ob hier auf allen Inseln das Ovulum ovum als Penisbedeckung getragen worden ist erscheint mir sehr zweifelhaft. Carteret, der Entdecker, erwähnt nichts hiervon, obwohl er den Anzug der Leute beschreibt, und sicher erscheint dass das Tragen des Ovulum zurückgeht. So habe ich auf Pāk, Lóu, und Páluan nicht einen einzigen Mann mit dieser Penisbedeckung gesehen.

Das Zentrum des Penis-Kalebassen-Gebiets von Nord-Neuguinea ist der Angriffshafen. Die Leitere-Leute haben diesen Penisschutz zweifellos früher auch durchweg getragen. Eine einzelne solche bemalte Kalebasse fand ich in Sissano, wo man sie *vŏpún* nannte, aber gleich auf Befragen eingestand dass sie aus Wánimo stamme.

Die Westgrenze an der Humboldt-Bai ist nicht so ganz klar und erfordert einen Augenblick Verweilen. Van der Sande stellt als Westgrenze Kap Bonpland und als Ostgrenze der Penis-Kalebasse Leitere fest, wo sie nur sporadisch vorkamen. Dieses Ergebnis stimmt allerdings in grossen Zügen. In Leitere, wo Finsch, sein Entdecker vom Wasser auf, einige Penis-Kalebassen im Gebrauch fand, trägt sie nach rund 25 Jahren kein Mensch mehr. Als ich während meines Marsches entlang dieser Küste dicht östlich der Make-Halbinsel am Angriffshafen die ersten beiden Wánimo-Leute mit solchen Kalebassen traf, waren wir alle, die wir die Küste nun von Yakomúl einschliesslich an kannten, über diesen Anblick höchst erstaunt; einige meiner Leute machten sich lächelnd gegenseitig darauf aufmerksam. Von hier bis einschliesslich der Sĕkó-Dörfer, also bis zum Kap Bonpland, habe ich keinen erwachsenen Mann gesehen der die Penis-Kalebasse nicht trug. Es ergibt sich also, dass den Leuten von Leitere bis Dyámbuë, die alle Glieder einer Stammesfamilie sind und die eine Papua-Sprache reden, die Penis-Kalebasse ursprünglich eigen war, dass aber die Leitere-Leute diese Sitte in den letzten Dezennien abgelegt haben. Als Grund hierfür kann ich nur annehmen dass Leitere, obwohl wissenschaftlich so gut wie unbekannt, doch schon seit vielen Jahren von Arbeiter-Anwerbern aufgesucht wird, und so von aussen beeinflusst worden ist.

Aus den Quellen ergibt sich nun aber, dass über diese Grenzen hinaus, auch von den Anwohnern der Humboldt-Bai, den Jótafa-, sowie Enchau- und Imbí-Leuten, teilweise solche Kalebassen getragen wurden, und zwar früher mehr wie neuerdings. Ich stimme nun Van der Sande vollkommen bei, dass ein aussen vor der Humboldt-Bai treibendes Schiff nicht ausmachen konnte, ob die besuchenden Leute aus den kalebassentragenden Sĕkó-Dörfern gekommen waren oder aus der Bai. Ich glaube ferner auch mit Van der Sande, dass die eigentlichen Jótafa der inneren Bai durchaus nackend gingen, wie ihre Nachbarn vom Sentani-See, die Kalebassen also höchstens einmal entlehnt trugen; dagegen habe ich in dieser Hinsicht einige Bedenken betreffend der Enchau- und Imbí-Leute, die tatsächlich mit solchen Penis-Kalebassen bekleidet gesehen worden sind und die—vom Schiff oder vom Lande aus betrachtet—doch genau in entgegengesetzter Richtung von den Sĕkó-Leuten wohnen. Diese Frage, die mit dem zur Verfügung stehenden Material nicht zu lösen ist, verdient im Auge behalten zu werden, denn auch linguistisch sind Unterschiede zwischen den Bewohnern der Innen- und Aussen-bucht von Humboldt-Bai vorhanden.

Vergessen werden darf an dieser Stelle nicht der Penisstocher, der bei diesen Leuten zur Penis-Kalebasse gehört, wie der Kalkspatel zur Kalk-

Kalebasse. Der Penisstocher, der die Gestalt einer hölzernen Stricknadel hat, steckt neben dem Kamm im Haar und tritt von hier aus häufig in Tätigkeit. Die Kalebasse, die den Zweck hat, den Penis gegen Beschädigung im Busch oder Insekenangriffe zu schützen, hat den Nachteil, dass sie sich leicht lockert und beim Schwimmen oder Gehen durch Wasser volläuft. Nach jedem Passieren eines Flusses von grösserer Tiefe als Spalthöhe—was uns damals im Januar, in der Regenzeit, alle Augenblicke passierte—entstand ein Aufenthalt, während dessen meine Kalebassenträger ihr Töpfchen abnahmen und entleerten, eine neue grüne Blatteinlage in die runde Offnung legten, den Penis hineinsteckten und nun mit Hilfe des Penisstochers diesen so weit hineinstopften, bis er ganz verschwunden und die Kalebasse dicht am Bauch lag. Auch während des Marsches, bei jedem Halt, beim Sitzen am Lagerfeuer kann man beobachten wie sie ihren Stocher aus den Haaren ziehen, Toilette machen, und dann den Stocher wieder an seinen Platz stecken. Alles dies fiel mir schon nach wenigen Tagen gar nicht mehr auf: so sehr gewöhnt man sich an die fremdartigsten Anblicke, wenn man immer solche Leute um sich hat. (Deutsch-Neuguinea, 153.)

I have cited at this length the statements of fact as observed by Friederici because of the importance of this detail of custom in establishing the interlacing of several stems in this New Guinea path of migration. He continues the discussion with an interesting and instructive argument upon the localization and development of the sense of modesty in the unclad.

109. **vŭm** to plant.

REFERENCE: Deutsch-Neuguinea, 214: 139.

1. **úmă**	Barriai.	5. **vŭm**	Sissano.
2. **uma**	Motu, Maiva, Efaté.	6. **bum**	Arop.
3. **um**	Wagap.	7. **umwa**	Mota.
4. **vúmă**	Vitu.	8. **uman**	Aneityum.

We have here a sparsely distributed stem occurring on the north shore of New Guinea and at the west end of Neu-Pommern in the Vitiaz Strait channel of translation, on the south coast of New Guinea at a point considerably remote from the Vitiaz Strait, again in the New Hebrides at Mota, Efaté, and Aneityum. The Motu-Mota location serves to set this stem on the Viti stream; the Sissano-Barriai location points to the confluence of migration through Vitiaz Strait with my Viti stream and has no bearing on Captain Friederici's contention that the establishment of this exit wipes out my Samoa stream in the Bismarck Archipelago. He notes concerning this stem that it is common in Malayo-Polynesian; I can identify it in no Polynesian language.

110. **vus** (**kusch**) rain.

REFERENCES: Melanesische Wanderstrasse, 124: 118. Codrington, 48: 48. Ray, 405: 102, 496: 102. Polynesian Wanderings, 322. Subanu, 148.

POLYNESIAN.

uha	Tonga, Niuē.	**udha**	Viti.
ua	Samoa, Fakaofo, Futuna, Uvea, Fotuna, Nuguria, Sikaiana, Tikopia, Maori, Tahiti, Hawaii, Rarotonga, Marquesas, Rapanui, Mangareva, Manahiki.	**uva**	Kapingamarangi.
		uas	Rotumā.

MELANESIAN.

1. **usa** Sesake, Marina, Maewo, Vaturanga, Tangoan Santo, Suau.
2. **usana** Dobu, Kubiri.
3. **usan** Kiviri.
4. **us** Santo, Malekula.
5. **eus** New Ireland.
6. **ous** Nokón.
7. **na sawa** Kilenge.
8. **uha** Ngela, Bugotu.
9. **uh** Lakon.
10. **uhe** Arag, Omba.
11. **ehe** Aneityum, Eromanga.
12. **usha** Aola.
13. **utha** Guadalcanar.
14. **ura** Rubi, Manám, Vitu,
15. **urata** Buka, Bougainville.
16. **uruotta** Bougainville.
17. **urei** Gog.
18. **uta** Alite, Gower Island.
19. **kusana** Mukawa.
20. **kuse** Sariba.
21. **qesi** Murua.
22. **qes** Nada.
23. **kusch** Sissano.
24. **kâŭs** Paup.
25. **vus** Sissano, Arop.
26. **ua** Efaté, Epi, Ndeni, Koiari.
27. **yuo** Baki.
28. **áuō** Bongu, Bogadjim.
29. **o** Ambrym.
30. **úĭ** Graget.
31. **wa** Yoda, Binandele, Amara.
32. **bwa** Efaté.
33. **va** Koiari, Kokila.
34. **nihua** Bierian.
35. **buk** Sēr.
36. **reu** Arag, Merlav.
37. **abara** Roro.
38. **awara** Barriai.
39. **auaha** Kobe.
40. **wat** Pak.
41. **wet** Sasar, Alo Teqel.
42. **weta** Lo.
43. **wend** Volow.
44. **wen** Norbarbar, Vuras, Mosin.
45. **wena** Mota.

The Proto-Samoan stem has been established as **uha**, retained in Niuē and Tonga in Polynesia, in 8 Ngela and Bugotu and readily identifiable in 9–11 in Melanesia. From this primal stem certain of these languages proceed by obliterating the inconvenient aspiration yielding the **ua** type. This has been the case most largely in Polynesia; in Melanesia we find 26 **ua** in the New Hebrides and in one of the so-called Papuan languages of Torres Straits; we can trace this form through 27–30; in 31 we find the first stage of hardening in the employment of the semivowel; in 32 it has advanced a stage farther and has become distinguished by one of the amorphous labials so frequent in Melanesia; thence in 33 has passed to a more sharply defined labial; in 34 we find **ua** or metathetic **uha** with a preface of undetermined sense.

In certain other of these languages the inconvenient aspiration is disposed of by a process of strengthening, in which, so long as the mutations are limited to the lingual tract, we have no difficulty in following the movement. The briefest mutation is **h–s**. This appears metathetically in Rotumā **uas**, is found in 1–6, possibly in 7, and again in 19–22 and 24–25. The mutation to **sh** is found indisputably in 12 and seems to appear in 23, but as to the latter we must note that the validity of the word needs determination and that the initial **k** may be found to remove 19–24 from affiliation with the **uha** stem; yet in the same connection we observe that **vus**, which Friederici records in the place of **kusch**, offers the sole instance of a labial preface, for in 31–33 we have established that the labial is not a preface but a modification of the initial **u**. The next stronger mutation **th** is found in 13 **utha** from Guadalcanar and a slightly advanced stage in

Viti **udha**. The ultimate possibility of strong mutation along the lingual series is to **t**, which is found in 18 **uta** in Alite and Gower. Postulating a metathesis of **uta** into **uat**, as we have seen to be the case from **usa** to Rotumā **uas**, we shall find no difficulty in passing to 40 **wat**, as we have noted in the case of 31 **wa**; and having once established **wat** in the chain of affiliation, the forms of the group 41–45 fall systematically into line.

The mutation of **h** to **r** falls within the lingual series, but in the detailed examination of mutation forms in the "Polynesian Wanderings" I have failed to establish such a mutation by a single instance. It may be suspected as operative in 14 **ura**, in 17 **urei**, in the metathetic 36 **reu**; to these forms we subjoin others in which **r** appears, 15–16, and the group 37–39, which Friederici rejects from the **uha** series and in which we can do no other than agree with him.

In 19–24 we find what seems to be the **us** stage of the stem prefaced by more or less distinct palatal consonants. This group is confined to New Guinea and appears on the north shore and in Torres Straits. The labial preface has been discussed in connection with **va** and with **vus**; we note in addition 35 **buk**, which would not be included at all if it were not that Sēr is so close geographically to Sissano as to suggest common influence.

115. **wesch** paddle.

REFERENCES: Melanesische Wanderstrasse, 122: 110. Deutsch-Neuguinea, 261. Ray, 496: 99. Polynesian Wanderings, 429. Subanu, 117.

POLYNESIAN.

fohe Tonga, Niuē.
foe Samoa, Tonga, Futuna, Uvea, Sikaiana, Tikopia.
foi Fotuna.
vodhe Viti.
hoe Maori, Tahiti, Marquesas, Rapanui, Mangareva, Hawaii, Tongarewa, Nuguria, Nukuoro, Liuaniua, Nukumanu, Tauu, Kapingamarangi.
ohe Mangareva.

MELANESIAN.

1. **fōze** Gower Island.
2. **fōs** Lŭberū.
3. **fīs** Tanga, Anir, New Ireland.
4. **hōse** Nakudukudu, Kalil, Soa, Hamatana.
5. **hōs** Nokon, Suralil, Pororan, Petat, Hitau.
6. **hŏs** Mouk.
7. **hes** Liba, Lassu, Langanie.
8. **hote** Malanta.
9. **hode** Koiari, Koita, Motu.
10. **vōse** Mopúe, Burruwe, Iapa.
11. **vose** Suau.
12. **ta-vose** Kelana.
13. **vōze** Vitu.
14. **vōzi** Vella Lavella.
15. **vōs** Nemassalang, Lakurumau, Bol, Fatmilak, Tatau, Topimeda, Sambuari, Kowamerara.
16. **vŏs** Lamassa, Lambom, Laur, Panemego.
17. **ta-vŏs** Siassi.
18. **vode** Pokau.
19. **voe** Awalama, Taupota, Wedau, Galavi, Boniki.
20. **vesi** Vokau, Vrinágol.
21. **víes** Aróp, Maló1.
22. **ne-hev** Aneityum.
23. **posi** Rook.
24. **poke** Mekeo.
25. **bos** Malekula.
26. **bote** Roro.
27. **bot** Tami.
28. **boe** Mukawa, Kubiri, Oiun.
29. **boi** Kiviri.
30. **uose** Efaté, Sariba.
31. **wose** Mota.
32. **wosi** Sariba, Mugula.
33. **woase** Sariba.

34. **woate** Malanta.
35. **uos** Efaté.
36. **uohe** Efaté.
37. **ōhe** Jenbi.
38. **ōse** Emirau, Eluaue, Emsau, Kung.
39. **ode** Kabadi.
40. **ōe** Wáremo.
41. **fāso** Jamna.
42. **vōsŏ** King, Kait.
43. **voho** Epi.
44. **hōsŏ** Labúr.
45. **gŏsŏ** Lamussong.
46. **ōso** Käwiëng.
47. **ōsō** Komalabú.
48. **ōsŏ** Komalú.
49. **ōsó** Kokolá.
50. **ŏsō** Panakondo.
51. **ŏsŏ** Murapá.
52. **ă-ŏsó** Belik.
53. **os** Lemusmus.
54. **ōs** Dyaul.
55. **hōsă** Palabong.
56. **wōsă** Matantuduk.
57. **wŏsă** Namarodu.
58. **uâsa** Pala.
59. **wăsā** Bisapu.
60. **wâsă** Pire.
61. **wăs** Lihir.
62. **wĕs** Mahur, Massait, Mali.
63. **vōle** Nakanai.
64. **pore** Barriai, Kobe, Wuvulu.
65. **ore** Manám.
66. **wai** Júo.
67. **ai** Yakomúl.
68. **aiis** Paup.
69. **ais** Alí.
70. **aus** Anggél.
71. **vō** Kabakaul, Molót.
72. **vea** Tanna.
73. **nă-pe** Kilenge.

The stem is **fohe** and in most of the varied forms here assembled we engage with the mutations of the two consonants. In the first forty items we run the whole course of lingual variability even to extinction, and nothing calls for particular comment except 37–40, in which we find, in remotest New Guinea, the form **ohe**, which recurs in southeastern Polynesia. The mutations of the **h** in the second syllable run a characteristic path with but few anomalies; 24 **poke** is admissible only as a kappation upon a **pote** base suggested by 26–27. The vowel skeleton is chiefly **o–e** with variation to **o–i** in 14, 23, 29, 32. The former vowel is found as **i** in 3 **fis**, which appears a satisfactory identification, as **e** in 7, 20–22. In 22 **hev** we find a metathesis upon a **vehi** which does not appear in the record, but which may properly be interpolated from 20 **vesi**. The items 41–62 seem to belong to a stem in **o–o**, which is strangely parallel with the **fohe** stem. In my estimate of the tendency of these languages to preserve their strength in the vowel structure I incline to distrust the likelihood of so general a variation from **fohe** to a putative **foho**; yet the two forms as naming the same physical object interlace all through Melanesia, and it is possible that they have a common source, and in the examination of this stem we are led to the acceptance of forms having **a–o** vowel structure, **o–a** and **a–a**, through which we are led to 62 **wes**. The items 63–65 establish yet another stem. It might be derivable from **fohe**, except for the fact that the **h–r** mutation nowhere appears in a position to be confirmed. In items 66–70 we have another stem from the New Guinea region which we can readily establish within its own limits, but which it is extremely unlikely has any association with the **fohe** stem. The items 71–73 seem scarcely associable with one another and not at all with the stem principally under this examination.

116. **wok** boat with outrigger.

REFERENCES: Melanesische Wanderstrasse, 50: 24. Deutsch-Neuguinea, 197, 261. Codrington, 40: 8. Ray, 484: 15. Subanu, 150.

POLYNESIAN.

vaka	Tonga, Futuna, Niuē, Uvea, Fakaofo, Rapanui, Paumotu, Mangareva, Marquesas, Mangaia, Rarotonga, Manahiki, Tauu, Nuguria, Sikaiana, Nukumanu, Aniwa.
vaga	Nuguria.
waka	Sikaiana, Maori, Kapingamarangi.
wangga	Viti.
wanga	Aniwa.
vak	Nukumanu.
va'a	Samoa, Anuda.
vaa	Tahiti, Marquesas.
waa	Hawaii.
va	Liuaniua.
ak	Rotumā.

MELANESIAN.

1. **vaka**	Suau, Vaturanga, Ngela, Savo, Bugotu, Nggao, New Georgia, Aola.
2. **vāko**	Vokau.
3. **vāgo**	Vokau, Vrinágol.
4. **vāk**	Amge.
5. **vůăk**	Malól.
6. **vŭók**	Sissano.
7. **buák**	Sēr.
8. **waka**	Suau, Galavi, Boniki, Mukawa.
9. **wākă**	Tobadi, Ingrau, Entsau.
10. **waga**	Mugula, Sariba, Tubetube, Panaieti, Tagula, Nada, Dobu, Kiriwina, Taupota, Wedau, Galavi.
11. **wágă**	Barriai, Kobe, Kilenge, Jamna, Jenbí, Bo, Bissapu, Palabong.
12. **oága**	Kabakaul.
13. **wāge**	Ingros, Nakudukudu, Kalil.
14. **wángga**	Nakanai, Rook, Vitu, Kondo, Kambangeriu, Epi, Arag.
15. **oangga**	To.
16. **wógă**	Pire, Namarodu, Matantuduk.
17. **wonga**	Kelana.
18. **wógŏ**	Labúr.
19. **wang**	Lamassa, Lambom, Mimias.
20. **vanga**	Alite.
21. **wāk**	Graget.
22. **wan**	Tami.
23. **won**	Jabim, Bukaua.
24. **wam**	Tavara, Awalama, Taupota.
25. **wa**	Wedau, Raqa, Kiviri, Oiun, Oleai.
26. **wā**	Manukwari, Mokmer, Ansus, Wooi.
27. **wă**	Pom, Sirewen, Wuvulu.
28. **uá**	Feis.
29. **wāĭ**	Saonek, Soron, Mokmer, Manukwari.
30. **faka**	Fagani.
31. **haka**	Ulawa, Wango, Saa, Bululaha.
32. **hak**	Abutúmete.
33. **aka**	Maewo, Mota, Duke of York, Molót.
34. **angga**	Omba.
35. **anggo**	King, Kait.
36. **ăge**	Molót.
37. **ak**	Merlav, Gog, Lakon, Sasar, Vuras, Mosin, Norbarbar.
38. **ok**	Pak, Alo Teqel, Motlav.
39. **ong**	Volow.
40. **eka**	Lo.
41. **nák**	Aweleng.

Linguistically this series calls for little comment, since the ordering of the material is sufficiently illuminative. The loss of the initial consonant observed in 33–40 is found also in Rotumā at the threshold of Nuclear Polynesia. Despite the anomaly of the initial in 41 **nák**, I have included the form because of the occurrence in that region of an initial **n** with somewhat demonstrative value functioning as article. A comparison of the geography of this record with that exhibited in the next preceding, also a term of navigation, shows that in the New Guinea and Bismarck Archipelago region the **vaka** ship does not extend so widely as the **fohe** paddle. This is because in this region we find a most marked advance in naval construction, which has progressed beyond the mere dugout in which stability is based entirely on the outrigger and has reached the beginning of ship-building in the **mon** boat, whose stability is secured by its structure. The intrusion of this boat has obliterated the common canoe name.

Check-List of Melanesian Languages.

The abbreviations employed in this list are used to assign the geographical position of the languages roughly. Melanesia appears as Mel. and is subdivided into three regions: the southern, Mel. S., includes New Caledonia with the Loyalty Islands and of the southern New Hebrides takes in Tanna, Aneityum, and Eromanga; central Melanesia, Mel. C., includes the remainder of the New Hebrides with the Banks and Torres groups; northern Melanesia, Mel. N., distinguishes the Solomon Islands, including Buka, although there is a growing reason to believe that this northernmost island belongs linguistically to the Bismarck Archipelago. The Bismarck Archipelago is similarly subdivided into BA. N. for the northern tier of islands from Neu-Hannover through the Admiralty and other groups; BA. E. for the eastern region of Neu-Mecklenburg, the Duke of Yorks, and the eastern extremity of Neu-Pommern; BA. W. for the western part of Neu-Pommern, beginning at Nakanai and including the islands in Dampier-Vitiaz Straits. New Guinea is likewise divided into three areas; NG. N. for the whole north coast as far as Huon Gulf opening on Dampier Straits; NG. E. for the region from Huon Gulf to the southeastern extremity and including the Louisiades and to Dufaure Island on the south coast; NG. S. for the south coast west of Dufaure Island and including Torres Straits.

Ăbŭtúměte	BA. W.	Bo	BA. E.	Erakor	Mel. C.
Adaua	NG. E.	Bogadjim	NG. N.	Eralado	Mel. C.
Afur	NG. N.	Bōk	NG. N.	Eromanga	Mel. S.
Agi	NG. S.	Bŏl	BA. E.		
Agomes	BA. N.	Bonarua	NG. E.	Fagani	Mel. N.
Alí	NG. N.	Bondár	BA. E.	Fătmilak	BA. E.
Alite	Mel. N.	Bongu	Ng. N.	Fauro	Mel. N.
Alo Teqel	Mel.C.	Boniki	NG. E.	Fezóa	BA. E.
Alu	Mel. N.	Brierly Id.	NG. E.		
Amara	NG. E.	Brumer Id.	NG. E.	Gaima	NG. S.
Ambrym	Mel. C.	Buga	BA. E.	Galavi	NG. E.
Amgĕ	BA. W.	Bugi	NG. S.	Galoma	NG. S.
Aneityum	Mel. S.	Bugotu	Mel. N.	Gelik	BA. E.
Anggĕl	NG. N.	Búĭn	Mel. N.	Girara	NG. S.
Anír	BA. E.	Buka	Mel. N.	Gog	Mel. C.
Ānsŭs	NG. N.	Bukaua	BA. W.	Gogohé	Mel. N.
Arabule	NG. S.	Bululaha	Mel. N.	Gosisi	NG. S.
Arag	Mel. C.	Buramana	NG. N.	Gower	Mel. N.
Arifamu	NG. E.	Bŭrre	BA. E.	Graget	NG. N.
Arŏp	NG. N.	Búrruwe	Mel. N.		
Ataiyo	NG. E.			Hagari	NG. S.
Aua	BA. N.	Dabu	NG. S.	Hámătănă	Mel. N.
Awă	Mel. N.	Dākŭr	NG. N.	Hámba	BA. E.
Awalama	NG. E.	Daui	NG. E.	Hanahán	Mel. N.
Awĕlĕng	BA. W.	Dĕrpŭáp	NG. N.	Hinsal	BA. E.
Áyó	BA. W.	Dobu	NG. E.	Hitau	Mel. N.
		Domara	NG. E.	Hula	NG. S.
Bagail	BA. E.	Doura	NG. S.		
Baining	BA. E.	Duauru	Mel. S.	Iápa	Mel. N.
Baki	Mel. C.	Duke of York	BA. E.	Ingrau	NG. N.
Balade	Mel. S.	Dungerwab	NG. S.	Ingrōs	NG. N.
Bangu	NG. S.	Dyaul	BA. E.	Iworo	NG. S.
Barriai	BA. W.				
Bauung	BA. E.	Efaté	Mel. C.	Jabim	BA. W.
Bawaipa	NG. N.	Éhānu	BA. E.	Jámbŭe	NG. N.
Belaga	Mel. N.	Eitapé	NG. N.	Jămnă	NG. N.
Bélik	BA. E.	Elema	NG. S.	Jenbí	NG. N.
Bem	NG. N.	Eluaue	BA. N.	Jibu	NG. S.
Berepo	NG. E.	Emírau	BA. N.	Jótafa	NG. N.
Bierian	Mel. C.	Emsau	BA. N.	Júo	NG. N.
Bilibili	NG. N.	Entsau	NG. N.		
Binandele	NG. E.	Epi	Mel. C.	Kabadi	NG. S.
Bísapu	BA. E.	Epíŭl	BA. E.	Kabakaul	BA. E.

Kabine	NG. N.
Kaip	NG. N.
Kairíru	NG. N.
Kait	BA. E.
Kálil	BA. E.
Kambangeríu	BA. E.
Kambotorós	BA. E.
Kamkabáng	BA. E.
Kaniet	BA. N.
Kărau	NG. N.
Karkar	NG. N.
Katatár	BA. E.
Katéndan	BA. E.
Kaup	NG. N.
Kavu	NG. N.
Käwiëng	BA. E.
Keakalo	NG. S.
Keapara	NG. S.
Kelana	BA. W.
Kerepunu	NG. S.
Kĕrŭár	NG. N.
Keule	NG. N.
Kilenge	BA. W.
King	BA. E.
Kiriwina	NG. E.
Kitawa	NG. E.
Kiviri	NG. E.
Kiwai	NG. S.
Kŏbe	BA. W.
Kŏfi	NG. N.
Koiari	NG. S.
Koita	NG. S.
Kokila	NG. S.
Kóko	BA. E.
Kokolá	BA. E.
Koliku	NG. N.
Komalabú	BA. E.
Komalú	BA. E.
Kondo	BA. E.
Kopăr	NG. N.
Kopoám	NG. N.
Kŏromíră	Mel. N.
Kŏtai	NG. N.
Kowamerára	BA. E.
Kubiri	NG. E.
Kŭměním	NG. N.
Kung	BA. E.
Kunini	NG. S.
Kwagila	NG. E.
Kwamera	Mel. S.
Labúr	BA. E.
Lakon	Mel. C.
Lakurefanga	BA. E.
Lakúrumau	BA. E.
Lamássa	BA. E.
Lambán	BA. E.
Lambell	BA. E.
Lambóm	BA. E.
Lambú	BA. E.
Lambusso	BA. E.
Lămpet	BA. E.
Lámussong	BA. E.
Langaníe	BA. E.
Langtub	NG. N.
Lássu	BA. E.
Lauan	BA. E.
Laur	BA. E.
Laurup	BA. E.
Lehona	Mel. N.
Leitere	NG. N.
Lemakot	BA. E.
Lemŭsmŭs	BA. E.
Lĕng	BA. N.
Leon	Mel. C.
Lepu	NG. S.
Letátan	BA. E.
Léŭt	BA. N.
Líăpări	Mel. N.
Líba	BA. E.
Lifu	Mel. S.
Líhir	BA. E.
Likiliki	BA. E.
Limba	BA. N.
Liriau	BA. N.
Livara	Mel. C.
Liwuan	BA. E.
Lo	Mel. C.
Logún	BA. E.
Lŏngă	BA. W.
Lóŭ	BA. N.
Lŭberú	BA. E.
Luf	BA. N.
Mābú	NG. N.
Mabuiag	NG. S.
Maewo	Mel. C.
Magara	BA. N.
Mahaga	Mel. N.
Mahúr	BA. E.
Maiari	NG. S.
Mailu	NG. E.
Maisin	NG. E.
Mait	BA. E.
Maiva	NG. S.
Makura	Mel. C.
Male	NG. N.
Malekula	Mel. C.
Maleu	BA. W.
Malí	BA. E.
Malo	Mel. C.
Măllŏl	NG. N.
Mamau	BA. E.
Manám	NG. N.
Mángŭt	NG. N.
Manikam	NG. N.
Manukolu	NG. S.
Mănŭkwári	NG. N.
Maragum	NG. N.
Maramasiki	Mel. N.
Mare	Mel. S.
Marina	Mel. C.
Massait	BA. E.
Mătángkŏr	BA. N.
Matántuduk	BA. E.
Matupí	BA. E.
Mawata	NG. S.
Mekeo	NG. S.
Mengen	BA. E.
Merlav	Mel. C.
Mēsi	BA. E.
Milareipi	NG. S.
Mimias	BA. E.
Mioko	BA. E.
Miriam	NG. S.
Misima	NG. E.
Mŏánŭs	BA. N.
Mŏkmĕr	NG. N.
Molót	BA. E.
Mono	Mel. N.
Mopúe	BA. E.
Mórobe	NG. N.
Mosin	Mel C.
Mota	Mel. C.
Motlav	Mel. C.
Motu	NG. S.
Mōŭk	BA. N.
Mugĕn	NG. N.
Mugula	NG. E.
Mukawa	NG. E.
Mulaha	NG. S.
Muliama	BA. E.
Munuwai	BA. E.
Murăpă	BA. E.
Murare	Mel. S.
Murík	NG. N.
Murua	NG. E.
Múschu	NG. N.
Nada	NG. E.
Năkănai	BA. W.
Nakúdukúdu	BA. E.
Nakukur	BA. E.
Namaródu	BA. E.
Namau	NG. S.
Nasioi	Mel. N.
Naviliag	Mel. S.
Nayáma	BA. E.
Ndai	Mel. N.
Ndeni	Mel. C.
Nĕkĕtĕ	Mel. S.
Nemássalang	BA. E.
Neneba	NG. S.
Nengone	Mel. S.
Nerokwag	Mel. S.
Ngamat	BA. E.
Ngao	Mel. N.
Ngātŭă	Mel. N.
Ngela	Mel. N.
Ngolhon	BA. E.
Nguna	Mel. C.
Nifilole	Mel. C.
Nissán	BA. E.
Nodup	BA. E.
Nogogu	Mel. C.
Nókon	BA. E.
Nonapaí	BA. E.
Norbarbar	Mel. C.
Nōri	NG. N.
Nowau	NG. E.
Numanúma	Mel. N.
Numerat	Mel. S.
Nupanob	NG. N.
Nusalik	BA. E.
Oiun	NG. E.
Omba	Mel. C.
Paama	Mel. C.
Paiŏgă	NG. N.
Pak	Mel. C.

Pāk	BA. N.
Pala	BA. E.
Pálabong	BA. E.
Panaieti	NG. E.
Panakóndo	BA. E.
Pánaras	BA. E.
Panemégo	BA. E.
Pangkumu	Mel. C.
Pante	Mel. C.
Paup	NG. N.
Petát	Mel. N.
Píre	BA. E.
Pisirami	NG. S.
Pokau	NG. S.
Pŏm	NG. N.
Pōpŏko	Mel. N.
Popolo	BA. N.
Pororán	Mel. N.
Punăm	BA. E.
Pŭt	NG. N.
Qatvenua	Mel. C.
Ragetta	NG. N.
Raluana	BA. E.
Ra'na	Mel. S.
Raqa	NG. E.
Ratawul	BA. E.
Rĕboine	Mel. N.
Retan	Mel. C.
Rogea	NG. E.
Rook	BA. W.
Roro	NG. S.
Rubi	NG. S.
Rubiana	Mel. N.
Rubrub	NG. N.
Rukumbu	Mel. C.
Saa	Mel. N.
Salī	BA. E.
Sambuári	BA. E.
Sāŏnĕk	NG. N.
Saran	NG. N.
Sariba	NG. E.
Sasar	Mel. C.
Savo	Mel. N.
Sekō	NG. N.
Seleo	NG. N.
Sēr	NG. N.
Sesake	Mel. C.
Siar	NG. N.
Siassi	BA. W.
Sigáb	BA. E.
Sikube	NG. S.
Simbéri	BA. E.
Simbo	Mel. N.
Sinaugoro	NG. S.
Sĭrēwĕn	NG. N.
Sĭssăno	NG. N.
Sóa	Mel. N.
Sogeri	NG. S.
Sórong	NG. N.
Suau	NG. N.
Suen	NG. N.
Sulka	BA. E.
Suku	NG. S.
Sungumána	NG. N.
Súralil	BA. E.
Tabar	BA. E.
Tagota	NG. S.
Tagula	NG. E.
Tami	NG. N.
Tándis	BA. E.
Tánga	BA. E.
Tangoan	Mel. C.
Tanna	Mel. S.
Tărăwai	NG. N.
Tasiko	Mel. C.
Tasimboko	Mel. N.
Tatau	BA. E.
Taui	BA. N.
Taupota	NG. E.
Tavara	NG. E.
Tawambossi	BA. E.
Tegarot	BA. N.
Teperoi	Mel. N.
Thaë	NG. N.
Tiob	Mel. N.
Tisasi	Mel. N.
To	BA. E.
Toaripi	NG. S.
Tobădi	NG. N.
Toboroi	Mel. N.
Tongoa	Mel. C.
Topiměda	BA. E.
Tsemalu	BA. E.
Tsoi	BA. E.
Tubetube	NG. E.
Tugeri	NG. S.
Tumleo	NG. N.
Tumu	NG. S.
Tumuip	BA. E.
Uaripi	NG. S.
Uatom	BA. E.
Uberi	NG. S.
Ugi	Mel. N.
Ulawa	Mel. N.
Úmbŏă	BA. N.
Umré	BA. N.
Ungachúm	BA. E.
Ungalik	BA. E.
Uni	NG. S.
Usiai	BA. N.
Utăm	NG. N.
Vălís	NG. N.
Valman	NG. N.
Vanikoro	Mel. C.
Vătai	NG. N.
Vaturanga	Mel. N.
Vella Lavella	Mel. N.
Vitu	BA. W.
Vokau	NG. N.
Volow	Mel. C.
Vrinágol	NG. N.
Vunapüts	BA. E.
Vunmarara	Mel. C.
Vuras	Mel. C.
Wagipa	NG. E.
Waigeu	NG. N.
Waima	NG. S.
Wamea	NG. E.
Wamira	NG. E.
Wango	Mel. N.
Wănimo	NG. N.
Wăremo	NG. N.
Wari	NG. E.
Watpi	BA. E.
Weasisi	Mel. S.
Wedau	NG. E.
Wĕi	NG. N.
Wogéo	NG. N.
Wooi	NG. N.
Wuong	NG. N.
Wútung	NG. N.
Wuvulu	BA. N.
Yăko	NG. N.
Yakomúl	NG. N.
Yela	NG. E.
Yengin	Mel. S.
Yoda	NG. E.

CHAPTER V.

INDONESIAN ANNOTATIONS ON THE VOCABULARY.

The individual items brought under study in this chapter are to a certain extent continuous with the items of the same distinguishing number in the preceding collation of material. Those already familiar with the progress of these studies of the element of speech common to Polynesia, Melanesia, and Indonesia, or to various pairs of these three hypothetical language groups, will recognize the object of convenience sought to be obtained by segregating the Indonesian word material from the Melanesian in the examination of sources of origin and possible tracks of folk movement deducible therefrom. We continue the assumption that the Polynesian languages have existed more or less diffusely in Indonesia; that they have been carried, at least in the earlier or Proto-Samoan migration, through Melanesia, and have there left traces persisting as loan material within the body of different languages of that island region. In the preceding chapter we have examined the Sissano in this connection. To the support of this assumption, which as a hypothesis is certainly workable, we have amassed in earlier works of this series a considerable body of data which is for the most part confirmatory.

On this assumption we continue to regard the Polynesian element yet traceable in various languages of Indonesia as a persistence of Polynesian not wholly expelled by the onward movement of the Malayan folk of a somewhat higher order of cultural attainment. We regard the persistence of Polynesian in Indonesian as differently conditioned from the recognizable presence of the same element in Melanesia. In the progress of Polynesian migrants expelled from the Asiatic island region they would appear as a superior race to the peoples of Melanesia whom they encountered on their generally southeastern way; they would be impressing new thoughts and new speech from above downward. Quite the opposite was the case in Indonesia. There the Malayans were the superior folk; they had reached the age of the smiths and the websters; they were the victors in combat; the persistence of Polynesian material was due to the retention in domestic servitude of women taken captive; the speech element came from below upward and was shaped to the might of the conquerors as a thing despised.

The several items in this chapter add to the material in the preceding chapter the discussion of the Indonesian element necessary for the more complete discussion of the problems involved. In this case it is not necessary to repeat the citation of authorities, for that has been sufficiently dealt with before.

1. **ai** wood.

73. **kayu** Malay, Baju.
74. **kaju** Tombulu.
75. **kayao** Bontoc Igorot.
76. **gayo** Subanu.
77. **cahoy** Subanu, Visayan.
78. **kau** Buru Alfuro.
79. **kao** Buru Alfuro.
80. **aow** Buru Alfuro.
81. **hazo** Malagasy.
82. **kai** Tombulu, Teor.
83. **ai** Bahasa.
84. **ai-ie** Ceram Alfuro.
85. **ail** Bahasa.

Here also we find the three stems which have been distinguished in all our former inquisition into this vocable. These are **ai** (82–85), **au** (73–80), **asu** (81). We have noted that stem **ai** is numerically the most frequent in New Guinea and Melanesia; in Indonesia we find but four occurrences of its use, three in the eastern subdivision close to the northwestern tip of New Guinea, and Tombulu not far remote in Celebes; in the area of Polynesian settlement it occurs only in Fiji and Rotumā. This material adds nothing to the comprehension of the position of the **asu** stem; 81 **hazo**, of which we note a variant **hazu**, approximates 44 **kasu** and 45 **gazu** and in the initial aspiration corresponds with 46 **hasie**; it is possible that 77 **cahoy** from the southern Philippines is associable with this stem, for thus can we better account for the presence of the inner aspirate as a mutation product of the sibilant, and from the fact that this is common to Subanu and Visayan we may regard it as later than the Subanu 76 **gayo**. In the paucity of the material we can do no more than to note the sporadic character of the occurrence of the stem, Madagascar, Philippines, Solomon Islands, New Hebrides, a single instance in each particular locus, and (47–49) two very doubtful instances on the Torres Straits shore of New Guinea. The **au** stem appears unmistakably in the three citations (78–80) from the Alfuro of Buru, and is there observed in the nude form (80), but also with the modulant **k**, which is largely found in the New Hebrides and is the dominant form in Polynesia. The group involving the semivowel **y** in the interior position (73–77) seems best associable with **au**, in which case we regard the semivowel as no more than a light septum phonated in consequence of the recognized need of preventing the coalescence of **u** with the preceding **a**; if, on the other hand, the phonetic value of the semivowel is regarded as vocalic, we should have the suggestion of a connection with stem **ai** seriously complicated by the problem of explaining the final vowel or vowels. If these forms are regarded as part of the **au** stem we shall set apart this stem in the same dominant position in Indonesia as in Polynesia.

4. **ain** to eat.

43. **cana** Subanu.
44. **kane** Bahasa.
45. **mo-konie** Togean.
46. **kan** Tontemboan.
47. **ma-kan** Malay, Bontoc Igorot.
48. **mangan** Bontoc Igorot.
49. **kaan** Ceram-Bonfia.
50. **gaan** Subanu, Solor.
51. **caon** Visayan.
52. **ijênan** Massaratty.
53. **anee** Ceram.
54. **ane** Bahasa.
55. **niane** Ceram.
56. **en** Ceram.
57. **aa** Bahasa.
58. **a** Bahasa.

The stem **ai** which prevails in Polynesia, which in the Melanesian area appears only in a small group of languages in Torres Straits, is wholly lacking to this showing of Indonesian material.

The several forms here included fall within the scheme of the **ani** stem, which we have seen to dominate Melanesia and to come within the Polynesian language circle only in Fiji. They adjust themselves to the diagram scheme of this stem, as already set forth with certain lacunæ here indicated by the use of parentheses and with two additions to what has been observed in Melanesia. The references to type forms are made clear by the employment of the serial numbers.

ani (54)	(ana)	an (56)	a (58)
kani (44)	kana (43)	kan (46)	
(gani)	gana (48)	gan (50)	
(hani)	(hana)	(han)	

In the discussion of the Melanesian material we found occasion to note that the nude form **ani** is by far the most frequent form in Torres Straits. This **ani,** and demolition forms (53–58), in Indonesia is characteristic of that group of islands which I have provisionally set apart as eastern Indonesia. They lie close to the western shore of New Guinea in a somewhat doubtful position in relation to migration tracks. In the common condition of coastal voyaging, namely, the establishment of the track from headland to headland by eyeshot, a canoe party from these islands might just as readily go north as go south when the New Guinea coast rose into view. If north we should look for traces of their passage on the north shore of that island, if south we should expect to pick up their memorials in Torres Straits. Here we have both: Subanu **ain** is of the **an** type, a single instance of the discovery of the nude stem along the northern route if we include therewith Ninigo; the Torres Straits group of languages is crowded with examples of this stem. The form with palatal preface is discovered in two cases in this eastern group, 44 **kane** and 49 **kaan.** The other occurrences are to be classed as western (47), central (45–46), and northern (43, 47–48, 50–51).

8. **ânó** family house.

46. **banua**	Malay, Bicol, Celebes Alfuro.	51. **bonoa**	Subanu.
47. **benua**	Malay, Togean	52. **bena**	Amblaw.
48. **vanua**	Celebes Alfuro.	53. **pena**	Ceram.
49. **wanua**	Bugis.	54. **fena**	Buru.
50. **banoa**	Visayan.	55. **hena**	Bahasa, Ceram.

The ten forms fall immediately into two groups, each consistent within its own lines. The former group (46–51) lies within the scheme of the common vocable, labial + vowel + **nua,** except that in Visayan and Subanu we note vowel change in the final element; in fact, allowing for yet another simple vowel change in 51 **bonoa,** this group falls within the scheme of labial + **anua.** The Alfuro 48 **vanua** reappears in Fiji within the Polynesian area and is widely spread throughout Melanesia

in the New Hebrides, the Solomons, and Torres Straits. The Malay 47 **benua** is characteristic of the Polynesian at large, but apparently it is not critical in the establishment of Tongafiti or Proto-Samoan provenience. The forms in **b** are characteristic of the most advanced languages of Indonesia, wholly lacking in Polynesia, and somewhat infrequent in Melanesia. The Bugis 49 **wanua** occurs only in the Duke of York (12), but the employment of the labial semivowel is exhibited in the Maori and Bukabuka **whenua.** The mutation of the former vowel of the putative stem **anua** exhibited in 51 **bonoa** recurs only in the small Melanesian group 8–11 and possibly in a degradation group of forms in 25–27, 32–33. The other two language provinces yield us no parallel for the Philippine forms in **-noa,** but the movement may exist in 9–11, 13, 43, and 45. This group of standard forms is extended over western, central, and northern Indonesia. The second group of forms (52–55) entails the reduction of **-nua,** to **-na,** and this change is accompanied throughout by **e** as the former vowel. As already stated, the only method by which we can comprehend this alteration is to regard **-nu** as a new stem established by abrasion and then subjected to vocalic mutation of **u.** A list of such mutant forms has already been presented; here we have to do with **-na,** which occurs in 30 and 33. None of the forms in this group is exactly found in Melanesia, but we note that the group is narrowly restricted to eastern Indonesia.

10. **ar** pandanus.

26. **pandan** Malay.
27. **pandang** Macassar.
28. **panrang** Bugis.

These three forms are distinctive of the Indonesian treatment of the archetypal stem **faran** and are quite congruent *inter se.* The mutation **n–ng** has come frequently under our notice in the course of these examinations. The Bugis is generally of a more primitive type than the present standard of the Malay and remains considerably closer to the Polynesian original in such loan material. In this instance it gives us the introduction of the support of the preface of the nasal of the same series as expressive of some slight difficulty in reproducing the distinctive **r** of **faran;** the same preface continues through the Malay and Macassar effort to compass the stronger liquid, and in these two instances the effort has resulted in the leap from the easiest phonation of the labial series to the mute at the other extreme, a linguistic principle upon which we have already commented at length.

11. **ărâu** sun.

14. **alo** Celebes Alfuro, Napu.
15. **alu** Celebes Alfuro.
16. **endo** Celebes Alfuro.
17. **lara** Aru (Wokau).
18. **lâor** Aru (Udjir).
19. **leár** Kei, Banda.
20. **lea** Massaratty.
21. **leamata** Bahasa.
22. **riamatai** Bahasa.
23. **lean** Celebes Alfuro.

We have hitherto noted that the **alo** stem fails to reach the Polynesian languages of the present, but we must regard it as certain that this stem was included in the speech of migrants out of Indonesia for some distance along the track followed by a Polynesian swarm. In the Melanesian collation we find the stem unmistakably in the New Hebrides, along Torres Straits, in the Dampier-Vitiaz Straits, in the northern Bismarck Archipelago, and probably in the Arop-Sēr lagoons on the north coast of New Guinea. In Indonesia the **alo** stem is clearly recognizable only among the Alfuros of northern Celebes. Concurrently with a clear **alo** runs a stem which in its simplest form appears as **lea** of Massaratty, and with a nasal suffix of some sort, as **lean**, this enters the **alo** region of Celebes. In the two Bahasa forms **leamata** and **riamatai** we encounter a second sun word of the type form **mata** which is of wide occurrence in the Indonesian family, its presence in determinant compaction with this **lea** and with other stems showing that neither **lea** nor the others carried the specific sun sense with sufficient strength to survive in all cases. We are unable to establish any community of source for **lea** and **alo**; furthermore, we can not establish either as having the same origin as the general Polynesian **la**; the only element common to the three is the liquid consonant, and this single point of agreement is far too slender to serve as a link. For the **alo** forms we have no difficulty in setting forth a migration track from northern central Indonesia along the north coast of New Guinea, on a course offshore from that island to the northern members of the Bismarck Archipelago, on a course alongshore through the Dampier-Vitiaz exit, and by reverse coastwise sailing to the south shore of New Guinea and by remoter voyaging to a yet more distant landfall in the New Hebrides on the course which I have proposed as the Viti stream. The **lea** stem is found in the eastern division of Indonesia in a position which might lead to transmission along either course about New Guinea.

12. **at** stone.

60. **fatu** Massaratty.
61. **fahou** Satawal.
62. **vato** Malagasy.
63. **batu** Malay, Kayan, Silong, Macassar, Togean, Ceram, Rumbia, Mengkoka, Bouton, Bahasa, Celebes Alfuro.
64. **bato** Ilocano, Subanu, Visayan, Bontoc Igorot.
65. **watu** Magindano, Savo, Maronene, Kolon, Kei, Banda, Celebes Alfuro.
66. **wâdu** Bima.
67. **hatu** Ceram.
68. **hatul** Bahasa.
69. **haul** Bahasa.

We observe here the remarkable closeness with which the Indonesian forms cling to the Polynesian original; indeed, there is far less variety than has been observed in the intricacies of Melanesian speech. Bahasa 68 **hatul** offers an assumed consonant for which we find elsewhere no parallel. The form is important, however, for it establishes

n this stem the variant in the same speech 69 **haul.** The evanescence of the mute under the protection of an interior position is anomalous, but this clear instance serves in explication of the Melanesian forms which have undergone the same loss (45–51). These forms are equally divided between the southern Solomons and Torres Straits, and for whatsoever value it may possess we note that the Indonesian instance derives from the extreme east of that region and convenient to the southern exit.

14. **aún** dog.

REFERENCES: Melanesische Wanderstrasse, 57:70, 104 a. Deutsch Neu-Guinea, 190, 205:51, 216, 219. Ray, 396:36, 487:36.

MELANESIAN.

1. **kau**	Ngela, Anudha.	15. **gaune**	Kilenge, Maleu.
2. **kaua**	Barriai, Geelvink Bay, Tami, Vitu, Roro, Kabadi.	16. **g'one**	Manukolo
		17. **ngaun**	Graget.
		18. **kapŭnă**	Limba, Langanie.
3. **kauwa**	Kobe, Vitu, Barriai.	19. **kapúně**	Kowamerara, Sigab, Likiliki.
4. **kauwek**	New Hanover.		
5. **kauuku**	Murua.	20. **mi-kopŏn**	Tatau.
6. **kaună**	Nayama-Panaras.	21. **kapul**	Lambom.
7. **kaunŏ**	Tobadi.	22. **gábun**	Kelana, Rook.
8. **kawuna**	Lobo.	23. **baun**	Bogadjim.
9. **koung**	Tami.	24. **haun**	Suein.
10. **kŏnye**	Ingros, Entsau.	25. **aún**	Sissano, Arop, Tumleo, Seleo, Paup, Yakomul.
11. **kanua**	Rotumā.		
12. **gaun**	Siar, Ragetta, Langtub, Bilibili, Szeak-Bagili, Karkar.	26. **awuna**	Namatote.
		27. **wona**	Ansus, Wandamen.
		28. **auwou**	Wedau.
13. **gaon**	Siassi.	29. **bwauwa**	Tubetube.
14. **gawun**	Siassi.		

INDONESIAN.

30. **kafuna**	East Ceram.	37. **kaho**	Tobelo.
31. **afúna**	Watu Bela.	38. **asu**	Old Java, Sanguir.
32. **apula**	Gorontalo.	39. **assu**	Ceram.
33. **kapuna**	Bentenan, Siau.	40. **wasua**	Ceram.
34. **kauna**	Halmaheira.	41. **jassu**	Ceram.
35. **kaso**	Halmaheira.	42. **ahu**	Sikka.
36. **kasu**	Galela.	43. **aho**	Halmaheira.

Nowhere in this collocation do we find anything which suggests the common Polynesian **kulī** dog stem, very little which seems associable with any stem in the eastern languages which might apply to the dog. In the Indonesian material we discover two or perhaps three stems which appear to maintain independent existence; these are in type form **afuna, auna,** and **asu.**

Stem **asu**—The variety in the treatment of this stem is very slight and the several forms depart in the least degree from the type. The final vowel undergoes modification to **o** in 43 **aho,** 35 **kaso,** and 37 **kaho.** The central **s** remains unchanged, except for the frequent and readily comprehended substitution of aspiration for sibilant in 42 **ahu,** 43 **aho,** 37 **kaho.** A tendency toward the assumption of a consonant preface becomes apparent in the initial semivowel in the Ceram forms

40 **wasua** and 41 **jassu**, and reaches its limit in the initial palatal mute **k** in 35–37. In 40 **wasua** the assumption of a final vowel is not matched in any other use of this stem. The stem **asu** is not traceable in our Melanesian material, except in so far as we might seek to establish a devolution series in the form **asu-ahu-au**; but this direction of variety is quite unlikely, as I shall show in its proper place. We must not neglect to point out that in Viti **oso** to bark we have the designation of one of the dog's faithful activities which closely resembles this stem, although the Melanesian gap is as yet unbridged.

Stem **afuna.**—The characteristic form of this stem consists of the vowel succession **a-u** with or without an initial palatal mute, but invariably parted by one of the labials. This preface may be **k** as in 30, 33, 18, 19, 20, 21; **g** as in 22: or the nude stem as in 31 and 32. The labial which we establish as critical of this stem may be **f** as in 30 and 31; **p** as in 32–33, 18–21; or **b** as in 22. It is quite possible that this labial septum is represented not only by the spirant and the mute, but by the semi-vowel adjacent to the labial series, **w.** With this employment of **w** as a resultant product of the labial inefficiency we have already become quite familiar, and the resemblances of semi-vocalic forms with purely consonantal forms are clearly shown, 8 **kawuna** with 30 **kafuna**, 14 **gawun** with 22 **gábun**, 26 **awuna** and 27 **wona** with 31 **afúna.** The stem in Indonesia and largely throughout Melanesia is trisyllabic, the final syllable being for the most part **-na**, the consonant has undergone mutation **n–l** in 32 **apula** and 21 **kapul**, a mutation supported by an abundance of established instances; the final vowel **a** mutates to **e** in 19 **kapúně**, and has undergone abrasion in 14 **gawun**, 20 **kopon**, 21 **kapul**, and 22 **gábun.**

Stem **auna.**—Here we enter upon the intricacies of the origin of this series of dog words. In the consideration of the stem **afuna** we have carried the series from the employment of the strong labial mute through the spirant down to the semi-vowel. Regarded solely as an academic problem in phonetics, we may quite as readily proceed to the next step, the weakening of the labial already debilitated to **w**, and find the last stage in **auna**, which preserves the characteristic vowel pair **a-u** and the specific consonant of the final syllable. On this hypothesis we should from 8 **kawuna** derive 34 and 6 **kauna** and with a recognized vowel change 7 **kaunŏ** and under abrasion from **kauna** to **kaun** (not found) we should reach 9 **koung**; similarly from 14 **gawun** developed by abrasion from **gawuna** (not found) we should derive 15 **gaune** and therewith include as a degradation form 16 **g'one** and from **gawun** direct 12 **gaun**, 13 **gaon**, and, with mutation of the initial consonant, 17 **ngaun.** In like manner 26 **awuna** through an as yet undiscovered **awun** should direct us to 25 **aun.** Still regarding the **n** as critical, we are left with a few forms which seem associable with this stem, yet which are somewhat anomalous: 24 **haun** may be under-

stood as an aspiration of 25 **aún** but the assumption of an initial labial in 23 **baun** does not comport with the recorded history of this group of stems; 11 **kanua** may be linked with 34 and 6 **kauna,** for we find the speech of Rotumā to be strongly characterized by metathesis, which in this case would take the form of the transfer of the initial **n** of the syllable **na** to a new position as initial of the syllable **u,** a metathesis included in my discussion of this mutation method (Easter Island, 29); 10 **kŏnye** has resemblance to **kanua,** it may be that such metathesis has been effective in Ingros and Ẹntsau at the entrance into Melanesia as in Rotumā at the distant exit therefrom.

In the examination of the stems **afuna** and **auna,** which are possibly but a single stem, we have passed under review all the forms which are characterized by the vowel pair **a-u** associated with a succeeding **n.** Now we consider residual forms which preserve the **a–u** but lack the nasal element. As a formal exercise, probably a mere juggling with phonetic rules, we should start from **kaun** postulated as a product of 34 and 6 **kauna,** though not recorded, and through the principle of final abrasion develop 1 **kau.** We might deal with 2 **kaua** as a weakening of 8 **kawuna** by loss of the nasal, but the history of the stems provides us no instance of such weakening and in general it must be regarded as highly anomalous. It is easier to regard the final **a** of **kaua** as an assumption which in turn has picked up the semivowel preface exhibited in 3–4 and 28–29. In 4 **kauwek** we should have no difficulty in comprehending the assumption of a final **k,** for that is not an infrequent occurrence in several Melanesian tongues; the **uku** of 5 **kauuku** may be associable herewith, or it may be a distinct stem gathered up in order to give precision to the diffuse signification of **kau,** that is to say, a determinant compound has been formed.

In this discussion reference has been made more than once to an academic problem of phonetics, and in so far as this term may seem to cast a shadow of doubt over the course of the argument, it will be held to have served the end which it was employed. To a certain, in fact to a very large, extent all problems of phonetics are academic; from amassed facts of observation it is proper to deduce rules which may be held to govern the usage of any speech. Here we mention Grimm's law. It may properly be impleaded in the trial of any of the linguistic possessions of the Indo-European languages, for it is the resultant of innumerable instances carefully codified and made applicable. But the validity of Grimm's law does not in itself establish the equal validity of other phonetic laws which seem to derive from a linguistic group of far different constitution. Because Grimm's law holds for Indo-European speech it does not necessarily follow that in these primitive tongues of Melanesia and the but slightly advanced tongues of Indonesia we shall find inherent validity in a law of progressive devolution. In the foregoing examination of this

material we seem to have followed a law of progressive devolution in accordance with which we have found ourselves passing from a higher, because more complex and more completely developed, form by successive stages of debilitation of the strong consonant to its weaker congener, eventually of reduction of consonant strength of whatever degree to semivowel weakness, and finally to extinction; and side by side with this process runs the attrition of the final vowel and at last of the newly become final consonant. Thus, along strictly academic lines, wherein we postulate the validity of the rules which we create, we present the chain of devolution from **kafuna** to **kau**.

In phonetics we have been trained so long in the study of the breaking down of forms from the higher to the lower, progressive deformity, that we rest under the obsession of regarding our phonetic laws as invariable in their operation in that direction solely. In this group of languages it is becoming more and more clear that we have to do with evolution rather than devolution, that all growth is progress, that the motion is from below upward, in form from the simple to the complex, in sense from the broad and diffuse to the particular and precise. In this view of the situation there is no reason why we should not invert the foregoing series and present the evolution from **kau** to **kafuna**. It will be objected that we have no knowledge of laws governing the assumption of formative elements. Quite true; but that is not essentially objectionable. We should the rather rejoice in the opportunity to carry out in vivid and growing material the observations which afford us at some more advanced stage the opportunity of formulating the laws deducible from these observed phenomena. Furthermore, we must never lose sight of the fact that in any living speech the law is secondary, it is but the average of fallible criticism of what is observed; supreme above the law lies the life of the speech and the will of the folk who use it for the communication of their thought.

Without as yet attempting to assert the law of growth by assumption, let us examine the **kau** stem as the beginning rather than as the end product. For convenience we repeat the items which now come under review:

1. **kau.**	3. **kauwa.**	5. **kauuku.**	28. **auwou.**
2. **kaua.**	4. **kauwek.**		29. **bwauwa.**

In 28 and 29 we find ourselves close to the ultimate of simplicity, an unprefaced stem **au**. Likewise we find ourselves close to the voice of the dog; we have to face the suggestion of onomatopoetic speech. It must be acknowledged that onomatopoeia has at times been overworked in the theory of speech beginning; at other times it has been denied with somewhat too much of insistence, the truth being that each case in which it is sought to employ this principle must be judged independently on its own merits.

Here we have a case which seems unmistakable. A stem **au** reproduces as well as may be in human speech the voice of the barking dog, and because the dog's bark is insistent, repetitive, we shall designate this familiar domestic tone by duplication as **au-au**. Now, those of us who do not take Mrs. General's pains to prune and prism our enunciation—certainly those who employ the primitive speech of the childhood of advanced culture, and equally those who as primitives in culture employ a speech altogether under the childish rule—find that the enunciation of **au-au** by reason of the vowel strength becomes **auwau** This is clearly the form which we have listed as 28 **auwou.**

In our own speech the name of the voice of the dog is bowwow. We are well instructed that no animal short of human elevation is able to employ consonants; even among men we see in these studies that not all of them have attained to facility in the use of the lips in speech. We can certify ourselves that no dog can frame the labial **b**, yet in reproducing the character of his voice we employ the labial to represent something which our ear mistakes for consonant, an appulse. Elsewhere I have been sedulous (Subanu, 68) in dealing with this principle; I have defined it as the initial of all sound, the beginning of the characteristic vibration from a state of rest. Loosely we employ bowwow; any person curious in such matters who will practise the phonation of **au-au** with a strong initial movement of the diaphragm will see for himself that it is possible to reproduce the appulse without any suggestion of the labial; but as we lack any alphabetic or diacritical character which shall give the direction to make a strong movement of the diaphragm, it has been found convenient to approximate this result by employing the labial initial. In our present material we find this labial in 29 **bwauwa.**

As between dog and dog we have not taken general pains to differentiate the voice in any marked degree, although we do preserve a distinction between the bay of the mastiff and other bass dogs and the yap of the tenor terriers. In bowwow the **b** and the **w** interpret an appulse which may best be rendered by labial expression. In yap we find a semivocalic interpretation of a less-prolonged appulse which may best be interpreted by palatal expression. That this appulse attains the **k** value is indicated by two words, kiyi (kaiyai) which has been allowed to occupy a grudging position in the dictionaries, and kiyoodle (kaiyudl), which exists in speech below the dictionary plane. It is not in the least improbable that the same palatal type of appulse exists in coyote (kaiyote) from the Mexican coyotl. From material familiar to our own speech system we have established the **k** value of the appulse; therefore we need have no hesitation in the appulse interpretation of the assumed initial in the **kau** series.

Adriani and Friederici affirm with positiveness that **kau** and **asu** can by no means be associated. I am not prepared to contravene their

decision, yet it is by no means impossible that **asu** or **ahu** may represent a development stage of the primordial onomatopoetic **au.**

We find the word for a dog in these languages to have developed out of the sound of the dog's bark; in other words, these peoples in the childhood of common culture, employ the same term as the beginning speakers in childhood of an advanced culture stage; children here and adults there, alike, call the dog bowwow. We have observed that in Polynesian culture the dog has a name derived from some other source; none the less the bowwow persists; even if not employed to name the barking animal it designates his bark; thus Samoa **ōu,** Maori **ao,** Hawaii and Tahiti **aoa,** all signifying to bark.

17. **băl (man-băl)** pigeon.

REFERENCES: Melanesische Wanderstrasse, 138. Deutsch-Neuguinea, 201.

INDONESIAN.

45. **balod** Visayan.

MICRONESIAN.

46. **paluch** Ponape.
47. **baluk** Satawal.
48. **bŏlŏchŏl** Palau.

POLYNESIAN.

49. **lupe** Samoa, Niuē, Futuna, Uvea, Sikaiana, Hawaii.
50. **lube** Tonga, Vanikoro.
51. **rupe** Maori, Tahiti, Rarotonga, Nuguria, Mota.
52. **ruve** Viti.
53. **rape** Marquesas.
54. **na-lopa** Aneityum.
55. **upe** Marquesas.
56. **rube** Gilberts.

Attention has already been directed upon the fact that the habitat of this **balus** form is narrowly restricted to the Bismarck Archipelago and to a certain stretch of the northern coast of New Guinea. The sole occurrence of the type of which we have any record in the Indonesian area is confined to the Visayan of the southern Philippines, a region immediately proximate to the New Guinea and Bismarck Archipelago area of occurrence. Without adventuring upon the little-studied problem of the relation of Micronesia to the other subdivisions of Pacific ethnography, we observe that in the Palaus and Carolines we find a somewhat clear indication of intercourse with the southern Philippines. I have appended the series of affiliates of the general Polynesian word for pigeon and have therewith included from Melanesia Vanikoro, Mota, and Aneityum, from Micronesia the Gilbert Islands. It is necessary to use caution in establishing affiliation in these groups of languages whose structural laws we are but beginning to explore; yet we know that metathesis is of great frequency in the speech of the Pacific. With this note of caution it is suggested that **lupe** preserves the early stem, which may have been **lupes,** for the modern disposition of the Polynesian to the open form would account

for the attrition of the final sibilant and the nature of the word as a noun substantive precludes the possibility of the preservation of a final consonant through the employment of protective suffixes. Considerable support of the suggestion that **balus** is metathetic upon **lupe** derives from the fact that in Indonesia, Micronesia, and Melanesia the range of **balus** is so narrow that all the occurrences might have come from a single source. In the comparison of languages we have had many occasions to observe the establishment of new types *per metathesin;* in the use of any one of the Polynesian languages the ear is struck by the frequency of metathesis. Therefore it strains no probability to suppose that from some primitive Polynesian source some Indonesian derived the metathetic form—accepted it as a base and then gave it new currency within the range of wandering covered in his raids.

18a. **bêi** flying fox.

11. **cala-biang** Tagal. 12. **băuk** Rotti. 13. **bāü** Timor.

In the Tagal form Friederici postulates the identity of **cala** with Javanese **kâlang** and then links the **biang** element with the **peka** stem through the Barriai **bianga.** In the paucity of Indonesian material we may venture no further than the recognition of the general similarity as pointing to possible derivation from a common source.

24. **bor** boat without outrigger.

7. **prâhu** Malay. 8. **prāhŭ** Banda, Ambon. 9. **parao** Tagal.

These forms are included for comparison with the much-worn words of New Guinea and the Bismarck Archipelago. It is possible that they associate with the common Polynesian **folau.**

26. **bul** moon.

43. **bulan** Malay, Salayer, Ilocano, Subanu.
44. **bolan** Visayan.
45. **bulang** Tringanu.
46. **bulrang** Menado.
47. **bulani** Kayeli.
48. **bula** Kaili, Bouton.
49. **bular** Amblaw.
50. **buran** Ceram, Sanguir.
51. **burang** Solor, Salibabo.
52. **bulam** Molucca.
53. **balan** Baju.
54. **fulan** Aru.
55. **fhūlan** Wayapo, Massaratty.
56. **phulan** Saparua, Ahtiago, Tobo, Teor.
57. **phulani** Awaiya.
58. **fula** Rotti.
59. **furan** Lobo.
60. **funan** Timor.
61. **fūya** Togean.
62. **fūan** Bontoc Igorot.
63. **volana** Malagasy.
64. **wulan** Gilolo, Solor, Java, Matabello.
65. **wulani** Caimarian.
66. **wura** Bima, Bolanghitam.
67. **wuan** Gah.
68. **hulan** Morella, Wahai.
69. **hulani** Batumerah.
70. **hulanita** Liang.
71. **huran** Ceram.
72. **haran** Lariko.
73. **ulan** Magindano.
74. **ulang** Kisa.
75. **ulano** Ceram.
76. **o'ra** Tidore.
77. **o'sa** Galela.

The Indonesian affiliates form so consistent a series that there can be no doubt of their association with the common Polynesian forms, and the terminal denudation of the latter is exactly paralleled in Indonesia by 48, 58, 61, 66, and probably by the greatly mutilated forms 76–77. The vowel strength of the word lies in the pair **u-a**, and this has undergone but little modification and that in mutations which are well established; we find **o-a** in 44, 63, and perhaps 76–77; the less frequent **u-a** mutation is evident in 53 and 72. The central liquid follows the recognized mutation series through the interesting passage to the semivowel in 61 **fuya** and thence to extinction in 62 **fūan** and 67 **wuan**. The mutation to extinction of the initial labial is typical. For the inclusion in this suite of 76 **o'ro** we find some argument in the frontally abraded forms 73–75 and the establishment of the **o-a** pair; but 77 **osa** is unusual and would not at all arise for consideration save for its evident likeness to 76, for the **l-s** mutation has not arisen in any of my studies of Indonesian and Polynesian. The Menado form 46 **bulrang** is anomalous as regards the diverse duplication of the central consonant.

27. **daman** father.

32. **tama** Klemantan, Toradja.
33. **amâ** Sasak.
34. **âma** Bima.
35. **ama** Visayan, Bontoc Igorot, Kolon, Salayer, Liang, Lariko, Teor, Saparua, Awaiya, Caimarian, Wahai, Bahasa, Buru, Celebes.
36. **a'ma** Morella.
37. **a'mam** Kayeli.
38. **amâi** Ahtiago
39. **amaeolo** Teluti.
40. **amao** Amblaw.
41. **amana** Bouton.
42. **iama** Menado.
43. **yaman** Sanguir.
44. **jaman** Tobo.
45. **kiamat** Bolanghitam.
46. **gama** Subanu.
47. **mama** Gah.
48. **mām** Mysol.
49. **nâama** Massaratty.
50. **năma** Wayapo.

In the consideration of the Melanesian affiliates it seemed advisable to conduct the examination along the lines of seemingly established phonetic principles. Thus the several variants were referred to a postulated **tama** stem. Here in the assembling of the Indonesian material we shall find it to our advantage to give particular attention to our postulated **tama**. Is **tama** the primitive stem? It is the only form known to Polynesian, it is by far the most frequent form in Melanesia, in Indonesia it occurs but twice, and the languages in which it does occur are relatively unimportant. In other words, have the Indonesians, who have perfect facility in the use of the lingual mute, excised the t entirely? Have the Melanesians, who in but a few scattered instances lack t facility, felt the same movement of obliteration in nearly half their languages? And having, without cause which we can discover, mutilated the **tama** stem, under what impulse of speech have so many Indonesians and Melanesians assumed not only one but indeed several initial consonants?

The inquiry will be facilitated by a synoptical ordering of the material derived from the two great linguistic provinces:

Nude stem	**ama**	33–41, 18–19
Aspiration preface	**hama**	17
Semivowel preface	**yama**	42–44
	rama	22–23
	wama	20
Nasal preface	**mama**	47–48, 27–30
	nama	49–50, 31
Palatal preface	**kiamat**	45
	gama	46
	kama	21
Lingual preface	**tama**	32, 1–14
	dama	15–16

Herein we outline a series of type forms in which we note but a single irregularity; **kiamat** is seen on inspection to be a palatal preface to **yama,** which is itself already prefaced by a semivowel. We can conceive of no system of speech whereby a primordial t in mutation can chase itself all over the phonetic diagram in more complicated moves than here are suggested. Here we find every class and every series of consonants save the labials, and these we have already learned are so late in acquisition that many of these speakers have not yet reached facility in their employment.

On the other hand, assume a primordial stem **ama,** which in this synopsis I have set down as the nude stem. Very frequently in this research we have to recognize the tendency to specialize the diffuse noumenon into something particular and to designate this specialization by modulating the obscure, because general, by a consonant serving as the coefficient of the particular sense. Assume in such case that which a glance at the geography of the regions and even the slightest acquaintance with their ethnography will amply warrant; assume a race of generally allied speech, but broken up into small and diffuse communities without means of intercommunication. Let each scattered unit of this group feel the impulse, their common heritage, to particularization by consonantal coefficients. Then in the condition of their wide severance into unassociated communities it would be idle to expect that the genius of the speech could direct all alike to the choice of the same consonant coefficient. In this wise we can comprehend the existence of several types of the **ama** stem in Indonesia before the expulsion of the Polynesians. The movement of Polynesians out of their early home in the Malay seas was no such going out as the great national trek from Goshen; it could not be, for there was neither a god to part the waters nor a Moses to lead a race. The course in its broad lines was fixed—as fixed as the rails of steam communication—but it was traversed by small flotillas of refugees seeking freedom in their small canoes. Singly and in succession each sought his way down through Melanesia, each with his own dialectic equipment, and thus the diverse types of the **ama** stem were led into wider

currency. On the charts we can follow out these lines with interest. We have already noted that **tamā** in its father sense (Subanu, 144) is wholly Proto-Samoan; we associate with this fact the interesting circumstance that the only instances of the lingually prefaced **tama** in Indonesia derive from the Klemantan of Borneo and the Toradja of Celebes, and that of the latter great island an outlier is Salayer, an island name carried over leagues of sea by the Samoans and preserved to the present day in the honorific salutation of Tutuila as the Island of Salaia.

It seems, therefore, wholly preferable to regard **ama** as the primitive stem, primordial so far as our explorations can be prosecuted into this beginning of a world speech, and that the present variety shows us the operation of a great law of particularization of sense determining specification in form.

45. **kaluk** wooden pillow.

32. **kalang ulu**	Malay, Lubu.	39. **olonán**	Tagal.
33. **karang ulu**	Java, Buru.	40. **ulunán**	Magindano.
34. **halang ulu**	Batak.	41. **gulunan**	Bagobo.
35. **olaoan**	Bontoc Igorot.	42. **galuling**	Dyak.,
36. **goloan**	Subanu.	43. **karaluni**	Tettum.
37. **olon**	Tagal.	44. **kluni**	Tettum.
38. **hĕlĕn**	Dyak.	45. **iklunin**	Galoli.

The three forms which head this Indonesian list explain themselves very simply. The Malay **kâlang** signifies support and **ulu** is common to Indonesia and Polynesia in the sense of head. The series 35–41, all save 38 of Philippine provenience, shows a little accented development from **ulu** head. In the Indonesian affiliates of this stem (Subanu, 149) we find the presence of a final **n** in Wayapo, Massaratty, Teor, and Tobo; of the similar **m** in Kayeli. This may indicate that in 37 **olon** the Tagal makes a distinction between the head support with the final **n** of an older form and the head itself as **ulo** equivalent of **olo** in the more modern form. This may also be true of the Dyak 38 **hĕlĕn.** On this reading of the material we should identify **olon** as head and set apart **-an** rather than **-nan** as formative element in 39–41, all forms from the Philippines. This opinion as to the formative element then receives support from 35–36 in which **-an** is affixed to an **olo** representative. The assumption of a palatal preface **g** in 36 and 41, both Philippine and of an early type, is of great interest when we put these occurrences into geographical relation with the similarly prefaced forms in Melanesia 1–10, all being on that shore of New Guinea and the adjacent Bismarck Archipelago which is most ready of canoe access from the southern Philippines. The forms 42–45 exhibit an elusive similarity with the **ulunan** type; 42 and 43 clearly form a pair, 44 and 45 another, and 43–44 show the transition; but when we orient the **ulun** stem upon the best-developed phase of this type,

karaluni
ulun

we find ourselves engaged uncertainly with a new formative element for which we have no clear explanation. This may be a formative syllable **kar** (**gal**) prefixed, in which case we should note that in the forms 32–34, occurring not only in the west but also in the north and in the east of Indonesia, we find such an element in **kar-ang**; but as these forms occur within the region of the formative infix, we must not neglect the possibility that they arise from the already prefaced **golon,** inferential from Subanu **golo** head, in the type form **g-ar-olon,** from which we may easily derive **karaluni.** Each suggestion is but a speculation; at present we want the data upon which to prosecute the research to a solution.

52. **lepí** sago.

37. **lapia**	Ambon, Bahasa.	44. **rambia**	Malay.
38. **labia**	Barëe Toradja.	45. **rombia**	Malay.
39. **lābiā**	Gorontalo.	46. **rumbia**	Tontemboan.
40. **lepia**	Ambon, Bahasa.	47. **humbia**	Sanguir.
41. **elpia**	Amblaw.	48. **bia**	Gorontalo.
42. **lepial**	Ambon, Bahasa.	49. **bêa**	Bunda.
43. **ripial**	Ambon, Bahasa.	50. **bi**	Vier Radja.

In the forms 48–50 we find particular reference to the fecula and in certain cases the addition of a determinant element is required when extending this element to the tree which produces it; thus, in Gorontalo we find **bia** designating the fecula and **la-bia** the tree; in Buru **bia** and **biapun** respectively. The **labia** type is of such wide extent in the two western provinces as to constitute a special stem. A resemblance is noted to the general Polynesian **la** which exists independently in the sense of the branch or limb of a tree, which compacts with another weak stem in **la-kau** to designate a tree. This is noted as a resemblance only in this connection through lack of intermediate data; in the "Polynesian Wanderings," page 304, will be found a summation of the scattered occurrences of this word in Melanesia and in Indonesia.

The Vier Radja **bi** seems to suggest an earlier type of the **pia** stem, for in languages which tolerate the open form exhibited by **bi** there must be the same tolerance for the open **pia** and therefore we can not see any reason to suspect that **bi** is an abrasion product. In the Melanesian series we find no evidence of the employment of **bi** independently, but in compaction with the **la** element we note its presence in the forms 10–21. These are confined to New Guinea and the adjacent Bismarck Archipelago, but the obvious conclusion as to source is complicated by the fact that certain of the occurrences are credited to the south of New Guinea and to peoples classed as Papuan, that is, non-Melanesian. In 41 **elpia** we find no difficulty in recognizing metathesis, in 42–43 the assumed final **l** is anomalous and receives no support elsewhere in the history of the stem.

56. **man** bird.

33. **manu**	Bahasa, Ceram Alfuros, Savu, Kisa, Menado, Sanguir, Sula, Morella, Caimarian, Baju, Salibabo, Togean, Bouton.	43. **manuti**	Wayapo.
34. **manuk**	Malay, Ponosakan, Sulu.	44. **mano**	Saparua, Lariko, Liang, Batumerah.
35. **manul**	Bahasa.	45. **manok**	Kei, Banda, Bentenan, Kayan, Magindano, Subanu, Visayan, Bontoc Igorot, Matu, Gah, Matabello, Teor.
36. **manue**	Amblaw, Awaiya.		
37. **manui**	Kayeli.	46. **manoko**	Bolanghitam.
38. **manuo**	Teluti.	47. **mani**	Waigiou Alfuro.
39. **manuol**	Bahasa.	48. **manik**	Gani.
40. **manuwa**	Ceram Alfuro.	49. **monok**	Dyak, Bontoc Igorot.
41. **manuwan**	Ahtiago.	50. **malu**	Ceram Alfuro.
42. **manut**	Massaratty.	51. **malok**	Wahai.

In Indonesia we find a considerable occurrence of the final **k** which has been twice noted in Melanesia; the forms in which it occurs are 34, 45–46, 48–49, 51, representing a score of languages. I have suggested (Subanu, 132), but on less complete material, that the final palatal is a part of the stem **manuk.** It now seems preferable to regard the **k** as an assumption of a word-determining element under the genius of Indonesian speech and not a pertinence of the stem. Thus only is it possible to correlate the forms of the type in **l** in **manul** (35) and **manuol** (39), of the type in **t** in **manut** (42) and **manuti** (43), in **n** in **manuwan** (41). Of these variants mutation of consonants could be employed to explain none save the **t** forms, and even that is only remotely possible. Of the inner consonant we have but a single variant, **malu** (50) and **malok** (51). The **n–l** mutation is well established in these language provinces, and in Melanesia we find one of these forms in 9 **malu** credited to Alite. The former vowel undergoes but one mutation, **a–o,** found in 49 **monok,** which occurs in the Dyak and Bontoc Igorot, both languages of a type but slightly advanced, and the same mutation has been observed in 26 **mon** and 27 **monmon** from Melanesia in two particular regions of the northern Bismarck Archipelago and the northern New Hebrides. The final vowel appears to be under a notable tendency toward mutation, a tendency obscurely comprehensible as in some way of a compensatory character, a movement which is also apparent in the frequent Indonesian assumption of one of several final consonants. Of these mutations we find two distinct types. That exhibited in the formula **u–o** is a recession toward the central vowel; that exhibited in the formula **u–e** is a movement to a position of similar advance on the other limb of the vowel scale. With these clear mutations I include the several instances in which merely ocular inspection seems to present cases of an unmodified **u** plus the assumption of a new final vowel, as shown *inter alia* in the case of 38 **manuo.** It appears to me that in such cases the apparent mutation **u–uo** is really the mutation **u–o,** but that in the course of the change sufficient of the **u** persists to give the impression of a semivowel lightly impressed upon the resultant vowel and that the mutation is better expressed

as u–wo. The mutation u–o is found in its simple form in 44–46, 49, and 51, and in the u–wo form, as already noted, in 38–39; with this I include u–uwa in 40 manuwa and 41 manuwan as a second step in recession toward the central vowel, and this mutation u-a finds support in the Melanesian forms 4–6. The mutation u–i is found in its simple form in 47 mani and 48 manik, with the support of Melanesian 17–18 mani and 16 mane; the u–wi form appears in 37 manui found in Melanesia (7) and in 36 manue.

63. **néu** coconut.

37. **niu**	Bima, Uap.	49. **nimel**	Ceram.
38. **nju**	Dyak.	50. **nimil**	Lariko.
39. **nyu**	Salibabo.	51. **nikwel**	Ceram.
40. **niyog**	Bicol, Bontoc Igorot.	52. **niweli**	Batumerah, Caimarian.
41. **inyug**	Bontoc Igorot.	53. **liweli**	Awaiya.
42. **nihu**	Malagasy.	54. **nuelo**	Teluti.
43. **njior**	Malay.	55. **luen**	Wahai.
44. **niula**	Gah.	56. **nu**	Java.
45. **nier**	Liang.	57. **nui**	Sulu.
46. **niwer**	Ceram.	58. **nuim**	Ahtiago.
47. **niwel**	Ceram.	59. **nua**	Tobo.
48. **niwi**	Kayeli, Wayapo, Massaratty, Amblaw.	60. **nur**	Malay.
		61. **niu-gao**	Subanu.

Nothing is here added to the material presented in the "Subanu" at page 138, and it is here offered simply to complete the record. The general discussion of the stem will be found in the Melanesian chapter.

69. **ol** pot.

20. **kuro**	Moro.	27. **ura**	Celebes Alfuro.
21. **kura**	Barëe Toradja.	28. **uran**	Timor.
22. **kure**	Minahassa.	29. **wurung**	Sumba.
23. **kuren**	Buru.	30. **unen**	Bahasa.
24. **kuring**	Buru, Sanguir.	31. **uren (ulen)**	Bahasa.
25. **kurreng**	Tiruray.	32. **urene (ulene)**	Bahasa.
26. **kuden**	Magindano.	33. **ulono**	Bahasa.

In the preceding consideration of this vocable I have made it clear that the immediate source for Polynesia is Fiji; therefore we are unable to settle if this be Polynesian stock or accumulation from Melanesia. In general, however, it is fair to assume that any word of such wide extent must have Polynesian origin, for this race was the great migrant race of the Pacific, and the Melanesians seem to have moved but little since their first appearance in the islands of the western Pacific, a beginning as to which we are wholly without details. If **kulo** were of Melanesian source, as suggested by its occurence in Fiji, we should find it impossible to explain how it could have worked backward against the movement of migration and have obtained so wide an extent in Indonesia. Taking all the factors into consideration, it seems safe to assume the stem to have been Polynesian speech during the residence of that people in the Malay seas, to have been carried down through the Melanesian traverse, and to have dropped out of modern Polynesian use only by reason of the absence in those newer masses

of volcanic extrusion of the clay which is an essential antecedent of the fictile art and of the vocabulary arising therefrom. In Indonesia there is some freedom of treatment of the stem, but Viti and Nuguria suggest a primitive **kuro**; this form dominates Melanesia and is conspicuous in Indonesia. In Magindano 26 **kuden** we find an instance of the **r–d** mutation with which we have made ourselves familiar in these studies. This item also presents the final nasal which characterizes so much of the Indonesian use of this stem, as **n** in 23, 26, 28, 30, 31, 32, and 33, as **ng** in 24, 25, and 29. In Melanesia we find three instances of the final nasal in 15–17.

73. **pipíp** butterfly.

63. **pepeue** Morella.
64. **pepeul** Amboyna.
65. **paopao** Ambon, Bahasa.
66. **kalipopo** Minahassa.
67. **kalibobo** Gani.
68. **lipopo** Barëe Toradja.
69. **kopokopo** Ambon, Bahasa.
70. **sosoboba** Loda.

In this series it is easy to trace out the **pepe** stem, except in the case of 69 **kopokopo**, which is included solely since it occurs with a clear instance of **pepe** in Ambon and Bahasa and may in some obscure way be associable through metathesis. The only other instance in which we encounter **k** in association with **pepe** is 15 **paubuuk**, credited to Tanna and on all accounts to be held as doubtful. Our Melanesian inquiry segregated a number of extraneous elements compacted with **pepe**. In Indonesia we find two of these identifiable, **-ul** in 64 **pepeul** is the same as 29 **bebeula**, and 69 **lipopo** and 2 **lipepe** are clearly the same as **le-**; in 66 and 67 we find **kali** in representation of the Melanesian series **kara-kili-**, already established. The geographical relation of Minahassa and Baree Toradja in Celebes is so close that we may compare **lipopo** with **kalipopo** as divers stages of the same type. Our material does not enable us to determine which of these is the primitive type in respect of the former element of the compacted form, but we find the same diversity extending through Melanesia. In 70 **sosoboba** we find conjoined with a **pepe** derivative a second element which is unique in the history of this word so far as we have been able to trace it.

74. **po** areca nut.

REFERENCES: Melanesische Wanderstrasse, 75: 5. Deutsch-Neuguinea, 202: 24.

MELANESIAN.

1. **bu** Barriai, Jabim, Munuwai, Fezoa, Lemusmus, Nokon, Uap.
2. **mbu** Kaimana, Jabim, Suralil, Uap.
3. **mi-mbú** Tatau.
4. **po** Tumleo, Sissano, Arop.
5. **búĕ** Keule, Bagail, Majum, Lossuk, Lauan, Panangai, Lakurumau, Limba, Langanie, Lawu.
6. **ă-búĕ** Palabong, Molot.
7. **mbue** Mouk.
8. **ă-búŏ** Belik.
9. **ă-mbúŏ** Lihir.
10. **bua** Barriai, Kobe, Kilenge, Sinaugoro, San Cristoval, Palau, Wogeo, Eluaue, Emsau, Kung, Tsoi, Baung, Ngamat, Murua, Kiriwina.

11. **mi-mbúă**	Kowamerara, Sigab.	17. **bŭbŭs**	Put, Kumenim.
12. **bŭai**	Namarodu, Lalinau, Punam, Bissapu, Laur, Kambangeriu, Kondo, Yalui, Lambell, Lamassa.	18. **bōkō**	Hamatana.
		19. **pua**	San Cristoval, Maramasiki. Ulawa.
13. **ă-mbŭai**	Gazelle Peninsula.	20. **vúĕ**	Avelus, Lauan, Mongai, Sali,
14. **bua-kau**	Pokau.	21. **potu**	Vrinágol.
15. **bua-tau**	Motu.	22. **pŏŭ**	Paup, Yakomul.
16. **bŭăchĕ**	Burruwe.	23. **pŭpŭs**	Paup, Yakomul.
		24. **fum**	Afue.

INDONESIAN.

25. **bua**	Ceram.	31. **fua**	Buru.
26. **buah**	Ambon, Bahasa.	32. **hua**	Bahasa.
27. **buwa**	Ceram.	33. **huah**	Ambon, Bahasa.
28. **pua**	Maldives, Rotti, Banda.	34. **huwa**	Ambon, Bahasa.
29. **puah**	Timor, Ambon, Bahasa.	35. **hual**	Bahasa.
30. **puwak**	Ceylon.	36. **wua**	Tombulu, Tonsea.

Through this series continuous through Indonesia and into the northern islands of Melanesia there runs a straight thread of easy identifications of a stem of which the most frequent type is **bua**. The variants of the initial labial lie within the range of mutation with which we have made ourselves familiar—from mute through spirant to semivowel in 36 **wua** and to aspiration in 32 **hua**. In a few cases we find an accretion to the standard stem; in 35 **hual** a terminal liquid, in 30 **puwak** a terminal palatal mute, but here we must note that all the languages of Ceylon lie outside the linguistic province with which we are dealing; in 16 **bŭă-chĕ** we meet a palatal of uncertain import, in 13 **ă-mbŭai** we find a vocalic accretion. In 14 and 15 **bua-kau** of Pokau and **bua-tau** of Motu it is clear that we have dialectic differences of the same word. The former element is manifestly the most completely developed form of the present stem **bua**. Ray notes that Motu **t** regularly becomes **k** in Pokau; therefore we accept **tau** as primal in this pair; this negatives the immediate guess that in this compaction we recognize the common stem **kau** tree, and in both these languages (p. 31, No. 35) we find that **kau** is represented by the form **au**. The vowel skeleton of the stem is represented by the pair **u–a** and the former undergoes no change in the variant forms which remain dissyllabic. The latter vowel undergoes mutation from **a** to **e** in 5–7 and 20, to **o** in 8 and 9.

Because of the intricate interlacing of monosyllabic with dissyllabic forms of the stem in closely related languages, we feel justified in classing with the **bua** stem a stem of the type **bu**; but without attempting to settle whether this is a more primitive type or the product of degradation by abrasion, save that it is proper to repeat the note that the abrasion of a final vowel with which we are most familiar is directed to the production of a closed syllable and does not seem applicable to any instance in which abrasion exposes another vowel. Attention may be directed upon the occurrence of stem **bu** in Uap of Micronesia, a storehouse of much that seems to represent a very primitive

Proto-Polynesian. It is possible that 24 **fum** represents the **bu** stem with a nasal accretion, but in the paucity of data this must remain a mere suggestion. In 17 **bŭbŭs** and 23 **pŭpús** we may find a duplicated **bu** with sibilant accretion. The frequent **u–o** vowel change establishes **po** in its narrowly restricted occurrence on the north coast of New Guinea. It would be mere guesswork to seek to associate with the **po** type such forms as 18 **bŏkŏ**, 21 **potu**, and 22 **pou**, though we note that the latter two are clearly of the same source.

The extent of this **bua** stem has an interest far transcending its lexicographic importance. Conditioned by a certain large but not complete botanical factor, we engage here with the division of two diverse cultures as established by the customs of betel-chewing and kava-drinking. There has arisen in ethnological reports as well as in the narratives of the merely curious traveler such a distortion of terms in connection with the betel-chewing that it seems advisable to continue the movement introduced by recent authorities and avoid as much as possible the term "betel-chewing." Even in so careful a work as Roorda van Eysinga's "Maleisch-Nederduitsch Woordenboek" we find this confusion. Under the word **sirih** defined as betel (*Piper betle*) he adds "**dâoen sirih** het wordt met pinang, gambir, kalk en tabak gekauwd," and "**mâkan sirih** betel nuttigen, betel kauwen." Then under the word **pînang** he gives the definition "de areek of betelnoot die bij den betel gebruikt wordt." He has given the four or five ingredients of the quid. The matter is detailed at greater length by Colonel Finley in "The Subanu," page 20. The betel constituent is the leaf of that pepper plant; it is of course a misnomer to transfer that name to the fruit of the *Areca catechu* palm, as we have just seen in the definition of **pînang**. To avoid this established error it is becoming the custom to refer to the unseemly stimulant as sirih-chewing.

This stimulant characterizes all of Indonesia and immediately adjacent Melanesia where the palm and the pepper grow or may be cultivated. It does not appear at all in Polynesia, where the areca palm and this particular pepper are lacking. In Melanesia the custom of sirih-chewing has not extended to the limits of the habits of the two plants, it has not yet reached the New Hebrides, and its introduction to the southern Solomons is within the memory of man. The most careful, as it is the most complete, presentation of the theme, so far as it relates to Melanesia, we owe to the field researches of Dr. Rivers. It is advisable to collect his scattered passages in order to present the treatment of the theme as a whole in order that we may see clearly what brilliant ethnographical use he makes of the subject in far broader relations than the mere practice by savages of one of those social vices which go so far in all conditions short of the angelic host, concerning which we are not briefed, to ameliorate the tedium of life. These

citations are all drawn from his volume "The History of Melanesian Society," but the order of citation varies considerably, as will be seen by the pagination credits, from that which he has followed in the sequence of development of his observations in the passage from island to island under the compulsive direction of the infrequency of means of travel.

For the purpose of simplicity I have so far spoken of the immigrants into Melanesia as if they were all of the same culture and the same stock. It is now necessary to study the immigrant culture in different parts of Melanesia more closely, with the aim of discovering whether it had the homogeneous character hitherto assumed, or whether it was itself complex.

There is nothing more striking in the distribution of objects throughout Melanesia than the respective ranges of the two substances, kava and betel. Kava is found in the southern and eastern islands of Melanesia, as well as in Polynesia, while betel is used in the northwestern part of Melanesia. It has usually been supposed that there is a hard and fast line between the kava and betel regions of Melanesia, the line passing between the Torres Islands and the Santa Cruz group. It is clear, however, that this line is not so sharp as has been supposed. Though the use of betel is an obvious feature of the culture of Vanikolo, there is no doubt that kava is also used on ceremonial occasions. There seems to be little doubt that kava is not used in Santa Cruz and the Reef Islands, even in ceremonial, while the use of betel is habitual. In Tikopia, an island which, though distinctly Polynesian, has yet had frequent communication with the Santa Cruz group, the use of kava in ceremonial stands beyond doubt, though the use of betel prevails in everyday life. We have at present no evidence whatever of the use of kava in the Solomons. In Polynesia the drinking of kava is almost universal, the chief places where the custom does not exist being New Zealand and Easter Island. In both places, however, the word, in its usual form or as *kawa*, is found with the meaning of "bitter," while in New Zealand *kawa* and *kawakawa* are also applied to a species of pepper (*Piper excelsum*) much used in religious ceremonies, and also to various ceremonies themselves.

The view generally accepted is that kava has been introduced into Melanesia from Polynesia. In some parts of Melanesia it is probable either that the use of kava has been so introduced or that recent Polynesian influence has greatly modified an earlier method of using the substance. Thus, in Anaiteum, Tanna, Aniwa, and Futuna (Fotuna) the name is the same as in Polynesia, while in Eromanga it is *ne have*. In the Banks Islands it is called *gea* and in the Torres Islands *gi*, both of which are perhaps related to the Polynesian word. When, however, we come to the northern New Hebrides, we find that in Pentecost [Arag] kava is *malohu*, in Efaté *maluk* [not recorded in Macdonald's dictionary], in Epi *milik*, and in Malekula *meruk*, words which, though evidently related to one another, are absolutely unrelated to the Polynesian term. In Fiji again we find a wholly different term, *yanggona*.

The evidence from language is confirmed by the study of the method of making the drink. Where the name differs from the Polynesian word, the method of preparation is also, with one exception, very different. The exception is Fiji, where kava is used in a way closely resembling that of Polynesia, although the Fijian term has no affinity whatever to the Polynesian name. It is possible, however, that the word *yanggona* comes down from a time when the mode of preparation was different. In Pentecost the root is not chewed but grated, and those who are drinking usually arrange

themselves in pairs, one man preparing the kava for the other. In the Banks and Torres Islands, where the terms for kava have a distinct resemblance to the Polynesian word, there is a likeness to the Polynesian method in that the root is chewed, but otherwise the mode of preparation is fundamentally different. In the Torres Islands each man makes the drink for himself, using special small cups in a manner fully regulated by custom. In the Banks Islands also small cups only are used, and though the root is chewed by one man for several others, the ritual is wholly different from that of Polynesia.

In the southern New Hebrides, where the term used for the drink agrees with that of Polynesia, the resemblance to Polynesian procedure is much closer. In Tanna each man chews a piece of the root, from which a boy prepares the liquid in a wooden trough. Enough is first prepared for three men, and then the same root is used for another three. In Eromanga the procedure resembles that of Polynesia still more closely. The root is chewed by boys, the chewed mass laid in a wooden vessel, water is added, and the mixture strained through coconut fiber and served in coconut shells.

An essential distinction between the different methods is that, in Polynesia and Fiji, kava is always prepared in quantity and then shared out among those present or among the more important persons in the assembly, while in Melanesia the whole thing has a far more individual character. Each man makes it for himself in the Torres, two men make it for each other in Pentecost, or one man prepares the substance in turn for a number of men in the Banks. In association with this more individual character we find that in place of the large bowl in which the kava of Polynesia and Fiji is prepared, the Melanesians of the northern New Hebrides, Banks, and Torres Islands make it in the small cups from which they drink.

It is possible that the more individual methods of Melanesia are merely a secondary result of the connection of kava with the *Sukwe*. In the Banks, for instance, kava is generally drunk in or at the *gamal;* if there had been at one time a more rigorous separation between the members of different divisions of the *Sukwe* than appears to exist at present, the more social fashion of Polynesia would have been impracticable. If, therefore, kava had been introduced from Polynesia in comparatively recent times, it is possible to see in the ritual of the *Sukwe* and similar institutions an obstacle to the orthodox Polynesian procedure. The separation between different ranks of the *Sukwe* may have made more individual methods necessary, and minor variations of procedure in the organizations of different islands may have produced the differences now found in the Banks and Torres Islands and Pentecost. It is thus possible to suggest a mechanism whereby the Melanesian methods may have evolved away from that of Polynesia, but the differences are so great that their explanation is probably to be sought in some other way than by direct introduction from that region.

There is one feature of the use of kava in the Torres and Banks Islands and in the northern New Hebrides which is even more important than either nomenclature or mode of preparation in pointing to the great antiquity of the practice in Melanesia. In these islands, and especially in the Torres group, it is evident that the use of kava is most intimately associated with the religious practices of the people. The drinking of kava is a prominent feature of the ritual of such occasions as birth, initiation, and death, and on these occasions kava is offered to the dead with the accompaniment of prayer. It is extremely unlikely that a practice introduced in relatively recent times from Polynesia would have come to be so closely associated with the religious beliefs and practices of the people, and especially with the cult of the dead.

I have so far considered chiefly the region of Melanesia with which I deal particularly in this book, but if the use of kava is ancient there it is probably ancient also in the southern New Hebrides; it may be that the closer resemblance to Polynesian procedure which is found in such an island as Eromanga is due to modification of an ancient practice through more recent Polynesian influence. The account of a case in which the Fijian method was adopted in the Banks Islands well illustrates how an ancient procedure can be modified; it may be pointed out that a chance visitor who saw the proceedings described by Mr. Durrad would have had no hesitation in deriving the practice of the Banks Islands from that of Polynesia or Fiji.

The distribution of the use of kava in the Santa Cruz Islands is strongly in favor of its fundamental place in Melanesian culture. According to the available evidence kava is not drunk in the Reef Islands, the culture of which is largely Polynesian, while its use is undoubtedly present in Vanikolo. If the use of kava had been due to relatively late Polynesian influence this would be very difficult to understand. We should have to suppose that an element of Polynesian culture is absent in those islands which one must suppose to have been the medium of its introduction, while it is present in another island of the group in which Polynesian influence in general is least apparent. It is very significant that the only island of the Santa Cruz group in which we have definite evidence of the use of kava is one which lies nearest to the Torres Islands geographically and resembles those islands in its culture more closely than other parts of the group.

An interesting possibility is suggested by a study of the treatment of the kava root in Polynesia and in different parts of Melanesia. In Polynesia the root was formerly chewed. We have no evidence that it was pounded or grated in any part of this region till quite recent times, when the practice of chewing has been given up in many places through European influence. In Fiji the root was generally chewed when the islands were first visited, but it would seem that the original Fijian practice, at any rate in the interior of Viti Levu, was to grate or pound the root, the practice of chewing having been introduced from Tonga.

In the Banks and Torres Islands the root is chewed, but in the New Hebrides, which we have every reason to regard as a region of more archaic culture, it is grated and there is no chewing. We find, then, grating or pounding the root in those regions, viz, Pentecost and the interior of Viti Levu, which the nature of the systems of relationship has led us to regard as regions of more archaic Melanesian culture, while chewing is found in Polynesia and in the Banks and Torres Islands.

One is tempted to ask whether the use of kava may not have been a practice of the aborigines of Melanesia which was taken over by the immigrants into that area; in this connection I may recall the fact that, in the northern New Hebrides and in Fiji, the terms for kava are wholly different from those of Polynesia and of other regions of Melanesia. It is also noteworthy that the people of Pentecost have a tradition of the origin of kava, said not to be known in the neighboring Banks Islands. This tradition is that kava was first discovered through the observation of its effects on a rat which had been nibbling a root. [The story in great detail and with the added item of the use of sugar cane for the correction of the intoxication is included in my collection of Samoan myths.] When in Fiji, however, Professor Stanley Gardiner was told a similar story of the origin of the practice in Tonga, so that the idea is probably not indigenous in Pentecost. [It should be noted that the presence of the tale in three such widely sundered loca argues most strongly for a common source of both story and custom.]

The nature of the terms for kava in the New Hebrides and Fiji, and the practice of grating or pounding the roots in those islands in place of the chewing of Polynesia, suggests that the use of kava may have originated among the aborigines of Melanesia and have been taken from them by the Polynesians instead of the movement having been in the contrary direction, as is usually supposed.

The use of kava is, however, so characteristic and widespread a feature of Polynesian culture, and it is so unlikely that it can have been adopted from the aboriginal Melanesians, that we seem driven either to assume its independent origin in Melanesia and Polynesia or to look elsewhere for the true explanation of its common presence in these two parts of Oceania.

There are certain facts connected with the use of kava in Melanesia which point to an explanation in harmony with the scheme of immigrant influence in Melanesia which has been formulated in the last two chapters. A striking feature of the use of kava in Melanesia is its close connection with the *Sukwe* of the Banks Islands and with the *Nanga* of Fiji. It was in the most sacred division of the *nanga*, called the *nanga tambutambu* or sacred compartment, that the kava bowl stood.

Even in the southern New Hebrides, where, so far as we know, the secret organizations do not occur, the use of kava is definitely connected with the houses where the men eat and sleep. Further, a universal feature of Melanesian procedure is the rigorous exclusion of women from all participation in its use, and this exclusion is probably to be associated with the institution of the men's house and the secret organizations. This at once suggests that the use of kava belongs to the immigrants to whom I have ascribed the origin of these organizations, and the force of this suggestion is greatly strengthened when we find that kava is closely connected with the ghosts of the dead, whose cult has also been ascribed to these immigrants. It is clear that, when offerings of kava are made with prayer, both offering and prayer are directed to the ghosts of the dead and not to the *vui* or spirits which have never been men. If kava thus belongs to the culture of the immigrants it is easy to understand why its use was at one time limited to the higher ranks of the *Sukwe* and why, even now in the Banks Islands, kava should only be made by one of *Tavatsukwe* or higher rank, while only those of this rank should drink in the *gamal*. I have suggested that this rank represents the dividing line between the original members and those who were introduced later; on this supposition the limitation to people of the *Tavatsukwe* rank and above becomes perfectly natural.

Two striking differences between the Melanesian and Polynesian methods of using kava are its more definitely religious character in the former, and its more strict limitation to men; and it is noteworthy that in both of these respects the practice of Tikopia resembles that of Melanesia. In Tikopia kava is only used in religious ceremonial connected with a cult of dead ancestors, from which women are excluded, so that to the parallels considered in the last chapter we have now to add this close resemblance between the practice of Tikopia and that of the secret organizations of Melanesia. It has been argued that Tikopia represents an early stage of Polynesian culture, and the resemblance between Tikopia and the secret organizations of Melanesia in the mode of using kava thus strengthens the hypothesis that the ancestors of the Polynesians and the immigrants who founded the secret organizations were one and the same people.

If now we turn to the distribution of the custom of chewing betel mixture, *i. e.*, a mixture of areca nut, betel leaf, and lime, we find that the practice is limited to the northwestern part of the area with which I deal, but that this

region forms only one corner of a vast area of distribution extending through New Guinea and the Malay Archipelago to India.

There are indications that the area of distribution has extended its limits in Oceania in relatively late times, even if it is not still extending. In Vanikolo and Tikopia betel and kava occur together, but while betel is chewed in everyday life, the use of kava is limited to religious ceremonial. In this case there can be no doubt that the offerings of kava represent the more ancient custom and that betel chewing is a later practice. The existence of both substances in these islands and the difference in their mode of use suggest the presence of two cultures, one of which is encroaching upon the area of the other. The Santa Cruz Islands, with Tikopia as an outlier, would seem to be a field in which the encroachment of the later culture is still in progress.

The distribution of kava and betel thus suggests the presence in Oceania of two cultures which may be called the kava culture and the betel culture, respectively. I propose to adopt as a working assumption for the rest of this book that these two cultures belong to two immigrant peoples whom I shall call the kava people and the betel people. When I use these terms in future it must be borne in mind that they are not terms for the people of Oceania who use kava and betel now, but are terms for the hypothetical bodies of immigrants who introduced the use of these two substances.

I propose also to adopt a special name for the indigenous population which the kava people found in Melanesia. We have seen that the earliest form of social organization of which we have evidence was on a dual basis associated with matrilineal descent, dominance of the old men, and the peculiar forms of marriage which are either known to exist in Melanesia or have been revealed by the analysis of its systems of relationship. It will be convenient to have a name for the people on whom the immigrants exerted so great an influence, and as the most essential feature of their social organization was its dual character, I propose to call them the dual people. Here, as in the case of the terms kava people and betel people, I do not use the term dual people for those who now possess the dual system of society, but for the hypothetical element in the existing population of Melanesia formed by the people inhabiting its islands when they were first visited by the immigrants. Since the argument has shown reason to believe that the inhabitants of the Solomon Islands and Fiji once possessed the dual system, we must suppose that these islands were at one time inhabited by the dual people; I make this the working assumption of the argument which follows:

It follows from the distribution of kava and betel that the kava people settled in southern Melanesia, Fiji, and Polynesia, while the betel people did not extend in their southeasterly movement beyond the Solomon and Santa Cruz Islands. It is, of course, possible that certain elements of the culture of the betel people may have been carried directly or indirectly to southern Melanesia, Fiji, and Polynesia, but it seems more probable that we have in the culture of these regions the results of the influence of the kava people uncomplicated by the culture of the betel people.

In the Santa Cruz Islands, where both betel and kava are used, it is clear that we have to do with elements belonging to the three cultures; and for reasons I have already considered we can be confident that in these islands the kava people were the earlier and the betel people the later comers. It must at present be left an open question whether the betel people themselves reached these islands or whether certain elements of their culture, including betel, may not have reached these islands indirectly. We can be fairly confident that the betel chewing of Tikopia is the result of intercourse with the Santa Cruz Islands rather than of a settlement of the betel people themselves.

I have now to consider the question whether the Solomon Islands are also the seat of the mixture of three cultures. It is possible that the kava people never reached these islands, so that, when the betel people arrived, they blended directly with an indigenous population possessing a dual organization comparable with that of southern Melanesia. If, on the other hand, the kava people settled in the Solomons and blended with the dual people and were later joined by the betel people, it is evident that we shall have a far more complicated problem than appears to be presented by the more southern islands.

We shall have in this case to consider the results of the blending of one people with another whose culture was already complex; we shall have to inquire how far elements of the culture introduced by the earlier settlers were obliterated or obscured by the betel people. An obvious fact to be dealt with will be the absence of kava in the Solomons, for if those I have called the kava people once settled in the Solomons a practice has since disappeared which forms so striking a feature of their culture elsewhere that I have chosen it as the means of their designation. All traces of their culture, however, are not likely to have disappeared, and I have now to consider what evidence we possess of the presence of the culture of the kava people in the Solomons.

When formulating my scheme of the origin and development of the *Sukwe* and *Tamate* societies of the Banks Islands I pointed out that certain prominent features of the secret organizations are present in the Solomons as part of the general and public culture of these islands. These features are a cult of the dead, the institution of totemism, and the practice of taboo. If now we examine the culture of the Solomon Islands we find that all three of these features are only present, so far as we know, in one region, that comprising Florida, Ysabel, Guadalcanar, and Savo, and many parts of San Cristoval, which may conveniently be spoken of as the matrilineal region.

The religious cult of this region is essentially a cult of ghosts; its social organism stands alone in the Solomons in being based on totemism, and the protection of property by means of taboo marks connected with the ghostly *tindalo* is a prominent feature of the culture. It is in this matrilineal region that the resemblance between the secret ritual of the *Tamate* societies and the open culture of the Solomons comes out most strongly. Further, it is only in this matrilineal region that we have any evidence of secret societies similar to those of southern Melanesia.

According to my scheme it is the kava people who founded the *Tamate* societies, and it is the culture of this people which is enshrined in their ritual; it will therefore follow that, if the kava people settled in the Solomons, it is the matrilineal region which has preserved their culture most purely. I propose to adopt as my working hypothesis that the kava people settled in the Solomons, and that in the matrilineal region of these islands there has been preserved the culture resulting from the blend of the kava people with the dual people but relatively little influenced by the betel people, while other parts, such as Ulawa and Malaita and the more western islands, are places where the influence of the betel people has been predominant. It is noteworthy that the matrilineal islands occupy the central portion of the Solomons, suggesting that the betel people have gradually invaded the islands from several sides; it is probable that their culture was still encroaching on that of the earlier settlers when the islands were first visited in the last century.

The complete absence of betel chewing in Fiji shows that the betel people can have had no direct influence in these islands; on the assumption I am

now making Fiji should be the seat of the interaction of the kava people with the dual people, more recent Polynesian influence being, of course, also present. On this assumption we should except to find that Fiji has closer affinities in culture with the matrilineal region than with other regions of the Solomons, and there can be little doubt that this is the case. The resemblance is particularly striking in their systems of relationship. No systems recorded in this book show a closer resemblance than those of the coastal people of Fiji and of the matrilineal region of the Solomons. There is not merely a resemblance in structure dependent on the fact that both are based on the cross-cousin marriage, but many of the terms are the same in the two places, the identity extending even to the possessive pronouns. Further, the close resemblance which thus exists between the terms of relationship of the two places is only one instance of general linguistic similarity, for F. W. Schmidt has especially noted (Mitt. Anthrop. Ges. Wien, 1899, XXIX, 251) the close resemblance between the languages of Florida, Ysabel, and Guadalcanar and those of Fiji.

Another feature which brings Fiji into relation with the matrilineal region of the Solomons, and both places into relation with the Banks and New Hebrides, is the presence of secret societies. If these societies are institutions founded by the kava people it is a striking fact in favor of the predominance of this people in the matrilineal region of the Solomons that it should be in this region only that secret societies are known to have existed.

I now return to the substances which form the special subject of this chapter. I have spoken of the culture of the matrilineal region of the Solomons as having been relatively little influenced by the betel people. Though there is reason to believe that their influence was slight compared with that exerted on other regions of the group, it is evident that it was by no means small absolutely, and one of the facts to be explained is the disappearance of kava.

So far as we know at present this disappearance is complete. It may be noted that kava is used in such a way in Vanikolo and Tikopia that it might easily be overlooked; as a matter of fact its use in Vanikolo has been completely overlooked until now, and has been recorded in this book for the first time. It is therefore possible that kava may yet be found in the Solomons, perhaps in the ritual of the bush people, of which we are at present completely ignorant. In southern Melanesia kava is closely connected with the secret organizations and with the cult of ghosts; we should therefore expect to have found its use connected with the *Matambala* of Florida, and it is possible that kava disappeared with the extinction of these societies.

In any case there is so much which suggests the presence of the kava people in the matrilineal region of the Solomons that it is legitimate to assume that kava was once used in those islands; if so, its disappearance would have been merely the result of a further progress of the changes which have made it so inconspicuous in Vanikolo that it has hitherto escaped attention. It remains to inquire whether there are any conditions which will explain how a practice introduced from without should succeed in displacing another, to which we must suppose the people to have been attached by long custom.

It is not, I think, difficult to see how kava, in so far as it is used as a daily stimulant, may have been displaced by betel mixture. Kava is a substance which can only be used after prolonged preparation; even in those parts of Melanesia where it is used the supply is generally far from plentiful. Further, in the Banks Islands its use is properly limited, not merely to men, but to the older men and chiefs, and it is probable that this limitation would also have been present in the Solomons.

The constituents of betel mixture, on the contrary, are always at hand. They are carried in the basket or bag ready for immediate use at any moment: the mixture is used by both sexes and at all ages, and both the areca nut and the betel pepper are abundant in the Solomons, so that even if they were brought from elsewhere by human agency it is evident that they have thriven abundantly. It is not unnatural that substances which can be used immediately, which are abundant and freely available to all, should have displaced in everyday life one which, if we are to judge from the evidence elsewhere, was scarce and only allowed to a small proportion of the population.

If, then, kava was once present in the Solomons and other places invaded by a betel-chewing people, it is not difficult to see why the earlier use of kava should have been displaced by the practice of betel chewing, at any rate in the ordinary life of the people. It becomes readily intelligible why, in such islands as Vanikolo and Tikopia, where we may suppose the introduction of betel to have been relatively recent, the use of kava has wholly disappeared from ordinary life and is drunk only in connection with religious ceremonial, or is made only in order that it may be used as a religious offering.

I can not conclude this chapter without a brief consideration of the origin of kava drinking. The practice of betel chewing is widespread, and Melanesia forms but one corner of so large an area of distribution that we can be confident that it was brought into Melanesia by an immigrant people as a fully developed practice. With kava the case is different. Its use is limited to Polynesia and Micronesia, Melanesia including the Admiralty Islands and New Guinea, and there can be little doubt that it is within this area that we must look for the origin of the practice. It is probable that it was not brought by the kava people as a fully developed custom, but arose through the needs and conditions of their new home.

The suggestion I make concerning the origin of kava drinking is one which involves a conclusion which will only be reached at a later stage of my argument. I mention it only in order to be able to deal with the origin of kava now.

This conclusion is that there was no very great difference between the cultures of the kava people and the betel people. Probably both peoples came from the same part of the world and the differences between them are perhaps to be explained merely by the lapse of time between the two streams of migration and by developments and changes which took place during the interval. Betel chewing is a complex practice which involves the use of three different substances (still more are used at present in some parts of the Malay Archipelago); it must have arisen by a process in which one substance was first added to another and then at a later stage the third substance added to the other two. It is possible that when the kava people left their old home the custom of betel chewing was still in process of development and that at this time the practice was limited to the chewing of the leaf of the betel pepper, or it may be that it was only this element of the mixture which they succeeded in carrying to their new home. Still another possibility is that the migrants may have been acquainted with betel chewing in its entirety, but brought none of its constituents with them, so that they could only use such ingredients of the mixture, or plants which resembled these ingredients, as they found in their new home. In either case it may be supposed that they first chewed the leaves until it was discovered, perhaps in the way suggested by the Pentecost story, that the root furnished a more potent means whereby to procure the desired effect of the plant. Having once discovered the properties of the root, it may be suggested that it became the custom to grate or pound it in some places and to chew it in others, and that from these beginnings there have developed the various methods of preparing the substance which are found in different parts of Melanesia and Polynesia.

Some facts may be mentioned in favor of this mode of origin of the use of kava. In the Bismarck Archipelago, according to Stephan and Graebner, the pepper used as a constituent of betel mixture is probably *Piper methysticum*, suggesting that the betel people found this plant when they reached this region and substituted it for that they had used in their former home. Further, the betel pepper is known in various parts of Polynesia as *kavakava-atua* (Marquesas), *'ava'avaaitu* (Samoa), and *avaava-atua* (Tahiti). These names clearly indicate the sacred character of the plant, and it seems possible that this sanctity is due to the tradition of the existence and use of this plant in the former home of the kava people. It may be noted that one of the very few plants used in Tikopia as a remedy is the *kavakava*, which may be the betel pepper.

I suggest, then, that the use of kava was a development of the practice of chewing betel, a view which has already been advanced in somewhat different form by Christian (Caroline Islands, 189). This seems to furnish by far the most probable explanation of the origin of a practice which is distinctly Oceanic.

One alternative must be mentioned. It is possible that the practices of drinking kava and chewing betel do not indicate two successive migrations, but have arisen only through the absence of the proper constituents of betel mixture in certain parts of Oceania. Thus, it might be held that the absence of betel chewing in southern Melanesia, Fiji, and Polynesia is due to the absence of the areca palm, so that it was only in these parts of Oceania that the immigrants were driven to the exclusive use of a betel pepper identical with, or similar to, that used in betel chewing. It might seem to be in favor of this view that the areca palm is said to be absent in Fiji and Polynesia, although its presence has been recorded in the New Hebrides.

There are, however, two sets of facts which make this alternative improbable. There can be little doubt that many of the food plants and other objects of economic importance of Oceania have been introduced by the immigrant peoples to whom I have ascribed the use of kava and betel; we should then have to explain why these immigrants failed to introduce the arcea palm in a similar way. Still more conclusive, however, is the fact that the presence and mode of use of both kava and betel in Vanikolo and Tikopia show that there have been successive introductions of the two substances. I have therefore no hesitation in adhering to my hypothesis of the two streams of migration into Melanesia which I denote by their respective uses of kava and betel. (Chapter XXVI, pp. 243–257.)

(Tikopia.) The evidence of outside influence was of the slightest; very few of the people wore anything but the native dress, a loin cloth of tapa stained with turmeric. They swarmed over the ship in the most fearless and free manner, talking vociferously and ready to lay hands on any object which took their fancy, their general appearance and their teeth and lips stained red with betel mixture driving some new members of the crew to hide themselves in alarm. . . . We visited one of the chiefs . . . and were given some excellent food consisting of sago flavored with coconut. (Vol. I, pp. 298–299.)

(Tikopia.) At the death of a chief another chief comes to make an offering of kava before burial takes place and it is probable that this offering is also made in the case of ordinary people. (Vol. I, p. 313.)

(Tikopia.) All the relatives would abstain from betel, but only for about two months. . . . For the first ten days after death offerings of food and kava are made at the grave daily and betel is usually offered too. These offerings of food and occasionally of betel continue indefinitely, probably

for as long as the existence of the grave is recognized. The kava, on the other hand, at first offered daily, is later poured out at longer intervals till six months after death, from which time offering is made every six months. As we shall see shortly the graves are the scenes of the offerings of kava on many other occasions. (Vol. I, p. 314.)

(Tikopia.) A man who asks a question chews betel and taking some of the chewed mass from his mouth he holds it out to the possessed man, saying "eat" and it is eaten by the possessed man, who is then ready to answer his questioner. (Vol. I, p. 322.)

(Tikopia.) Betel mixture is used by the people largely and the areca nut (*kaura*) and betel leaf (*pita*) must be very plentiful. The lime, called *kapia*, is kept in simple undecorated gourds, and the elderly chief of the Taumako whom I saw on my visit prepared his betel mixture in a cylindrical vessel with a spatula, exactly in the same way as is done by elderly men in the Solomon Islands. It seemed quite clear that the kava which is used so extensively in ceremonial is never drunk. (Vol. I, p. 333.)

(Tikopia.) Near the bowl (of sacrificial food) was placed some turmeric, scented water, areca nut, betel leaf, and lime. . . . The chief's second son, Paetearikitonga, then made kava, which Paevatere took to the chief, who held it over his head twice with prayer and then poured it over one packet of food, a second bowl of kava being poured on the other packet. The chief then pounded up betel leaf, areca nut, and lime and, after holding the mixture twice above his head with prayer, he placed it with the other offerings. (Vol. I, p. 337.)

It is probable that this process of simplification (of relationship) would be assisted by later immigrant influence, and the nature of the systems of Ulawa, Saa, and Eddystone suggests that the influence of the betel people has been especially strong in these islands, and it is therefore significant that they possess the simplest of all the Melanesian systems I have recorded. . . . We should not expect that terms of relationship introduced by the betel people would have a wide distribution, and we have little evidence which allows us to ascribe such introduction on any large scale to this people. The terms, however, common to Ulawa and to Heuru in San Cristoval, and such a term as *sasi*, which seems to be spreading through Malaita, may have been derived from the betel people, and other of the Malaita terms, such as *di* used for the cross-cousin, and *loma* and *bara* used for relatives by marriage, may also have come from this source. We need, however, a far larger collection of systems from this part of Melanesia to enable us to distinguish such terms with certainty. All that can be said at present is that the available evidence suggests that the betel people were not responsible for such fundamental changes in the social organization, and consequently in the systems of relationships, as seem to have followed the advent of the earlier immigrants, and such changes as they produced were probably in the direction of simplification of a kind which did not involve the introduction of new terms. There are, however, certain words which are possibly common to both kava and betel peoples; thus, *tama* has so wide a distribution (see pp. 50, 115) as to suggest that it is such a word. Its presence in southern Melanesia, Fiji, and Polynesia shows that it certainly formed part of the vocabulary of the kava people, but it is also present in Eddystone, and with elided initial letter in Ulawa, where the influence of the betel people has been especially pronounced. Probably both peoples used this term. Similarly, *tina* is used in Eddystone as well as in Polynesia, Fiji, and the matrilineal region of the Solomons, and here again the term may have been common to both cultures. A more doubtful word is *iva*, used for brothers and sisters-in-law. This

term is found in the matrilineal region of the Solomons and in Eddystone, and probably in the modified form *ihe* or *iha* in Ulawa and Saa. Further, it almost certainly occurs in Fiji, both as part of *ra-iva* and among the Tavua people without the prefix. On the other hand no form of the word has been recorded in any part of Polynesia. The word thus raises a difficulty, for, if it belonged to the kava people, we should expect to find it in Polynesia, and its presence in the matrilineal Solomons and Fiji is a difficulty if it be ascribed to the betel people. I can only suggest that it is a term, common to both peoples, which has disappeared in Polynesia. (Vol. II, pp. 312–313.)

It is an essential part of my general scheme that the immigrants into Melanesia practiced a cult of the dead as the prominent element in their religion. Since this cult of the dead is a pronounced feature of the religion of Tikopia and of the secret societies of southern Melanesia, it follows that it is to be ascribed to the kava people. A cult of the dead is also the prominent feature of the religion of islands, such as Eddystone and Malaita, where I suppose the influence of the betel people to have been predominant. We have therefore to conclude that the cult of the dead was common to both the immigrant streams supposed to have entered Melanesia. . . . We can with some confidence ascribe the highly developed cult of the skull in the Solomons to the betel people, but we can not so confidently exclude a skull cult from the religion of the kava people. . . . The sanctity of the head among the kava people thus suggests some community of culture between them and the betel people. It suggests that the practices of the betel people are only a further development of beliefs and practices already possessed by the kava people; and that the kava and betel people were only two successive streams of migrants possessing closely related cultures. (Vol. II, pp. 258–260.)

The conclusion to which this and the preceding chapters have led us is that Melanesian society, as we now know it, is the outcome of the blending of a number of different peoples. First, a people possessing the dual organization of society; next, an immigrant people who introduced the use of kava and were the founders of the secret organizations of Melanesia; thirdly, a people who introduced the practices of head hunting and betel chewing; and lastly, relatively recent influences from Polynesia and Micronesia. There is reason to believe that the earliest of these peoples, the dual people, was itself complex, having as one of the constituent elements a people who interred their dead in the sitting position; but the problem before us is sufficiently involved without the introduction of this complexity. I propose, therefore, in the succeeding chapters to ignore it as far as possible and to treat the dual people as the aborigines of Melanesia. . . . In the attempt to analyze Melanesian culture I shall pay especial attention to the kava people and the dual people, and shall not attempt any thorough examination of the culture of the betel people. The material with which I deal in this book is derived chiefly from the more southern islands of Melanesia, which I suppose to have been uninfluenced by the betel people. If I am right in supposing that these islands are the scene of the mixture of only two main cultures, it is evident that the analysis will be a far easier task than in the Solomons, where we have, in addition, the influence of the betel people. The most favorable condition for an inquiry into the culture of the betel people would be the study of some region where their influence has been dominant and where the influence of the kava people has been relatively slight. Such a region seems to exist in the more western islands of the British Solomons which have been studied by Mr. Hocart and myself; the share taken by the betel people in the production of Melanesian culture can only be adequately considered after the full account of this work has been published. (Vol. II, pp. 290–291.)

Such enormous phonetic variation (as in the Banks Islands and the New Hebrides particularly) is very difficult to understand on any hypothesis other than that on which I am proceeding, according to which it would be the result of phonetic differences in the speech of the peoples who inhabited these islands before the arrival of the kava people. It is more difficult to say what may have been the influence of the betel people and other later comers into Melanesia. The languages spoken in the islands where the influence of the betel people has been especially strong are of the same general character as those of other parts of Melanesia. The betel people must have had some effect on vocabulary, but the evidence for their influence seems to be so slight that this people probably furnish an example of the widely accepted principle that language follows the mother. It is probable that the betel men married women of the islands where they settled, and that their children adopted the languages of their mothers. This process would be the more natural if the language of the betel people did not differ very widely from that of the earlier immigrants. The existence of common elements in the use of kava and betel, in the cult of the dead and in the material culture, has led me to regard the kava and betel peoples as closely allied to one another, and the slight differences between the languages of places settled by the betel people and those they did not reach suggest that the languages of the kava and betel peoples did not differ in any fundamental respect from one another. (Vol. II, p. 470.)

The chief material objects which I have been led to ascribe to the kava people are the following: kava, shell money, the pig and fowl, the bow and arrow, the wooden gong, the conch shell, the fillet, and the cycas tree. (Vol. II, p. 533.)

The plank built canoe (*mon* of New Ireland) seems to have been especially developed among the betel people. (Vol. II, p. 536.)

It is probable that they (the Matankor of the Admiralty Islands) are representatives of a migration earlier than that of the betel people who seem so largely to have influenced the Moánus, and I propose now to consider how far there is any evidence which would lead us to identify their culture with that of the kava people. In entering upon this topic it will be natural to begin with kava drinking. This practice occurs in the Admiralty Islands, and as in other parts of Polynesia, its use has generally been ascribed to relatively recent Polynesian influence. The juice of the root, however, is expressed between stones and is drunk by men, the mode of preparation being thus of a kind which I suppose to have been practiced by the kava people of Melanesia. If the practice was introduced from Polynesia it must have been at some remote time before chewing had become the Polynesian practice. According to Parkinson the method is like that of Ponape, so that relatively recent introduction from Micronesia must be regarded as a possibility, but it may be noted that the only place in the Admiralty Islands where we know definitely of the use of kava is Lou, which is one of the seats of the Matankor. This suggests that there still lingers in this island one of the original customs of the kava people which has disappeared everywhere else in northern Melanesia. (Vol. II, p. 553.)

Before entering upon the statement of the views upon the kava problem which have resulted from my own studies, it will be proper to comment on certain of the foregoing conclusions offered by our learned authority.

In the Tanna method of preparation (p. 125) we find a difficulty of usage. After the method in use in all Polynesia and in Fiji it would

be quite impracticable to make a second infusion. In those cultures the dried root after comminution by chewing or pounding undergoes the process of maceration, the minute fragments of the woody fiber of the root being removed from the infusion by being caught in a tangle of hibiscus fiber. This is the converse of straining, whereby the material might be conserved for future use if such were considered desirable; for the hibiscus swab collects the particles and they are then thrown away in the process of shaking out the swab. Even if the particles were kept, as would be the case in a process of straining whereby the liquid was removed from the solid rather than the solid removed from the liquid by swabbing, it is not easy to see what second use could be made of the remnant, for the first maceration dissolves out practically all the active principle contained in the starch-cells of the root, and I have certified to myself that the portion removed by the swab retains almost none of the characteristic flavor of the fresh root and probably little of its active principle.

In the region of the secret societies of the Banks Group it is noted by our author (p. 225) that the religious character of kava use argues against the recent introduction from Polynesia of the custom. We should note in a most important addition to this fact the further fact that in Polynesia kava is not in the least associated with religious custom or religious ideas. We do find kava used by the gods (a pertinent example is in the Samoan story of peeping Pava in my manuscripts), but such use is exactly as is the use of man on the earth below, a social custom. The nearest suggestion of religious idea may be conceived to appear in the libation to the divine principle which persists in Samoan usage. In spilling a few drops of the infusion upon the pavement just at the edge of the house the first who drinks murmurs the phrase "Let the god drink; this recognition is decorous." But as this is used as a grace before any meat it will be manifest that it does not particularize the use of kava.

Several notes find place along with the remarks of Dr. Rivers (p. 226) upon the chewing or pounding of the root. It must be understood clearly that the island taste does not revolt at the practice of having the root chewed in the mouths of others and no part of the operation seems unbecoming. In fact, I venture to record that as a result of long experience with kava in all parts of the Pacific it is not mere idle fancy to hold and to express the opinion that there is a distinct difference in the quality of the infusion which can be traced only to the difference in the mode of preparing the root for maceration. When made from pounded root the infusion has a raw flavor quite inferior to the smoother blend when chewed. In the latter process we have not only the stimulation of the salivary glands in normal response to the presence within the mouth of a foreign substance, but the active peppery principle of the root set free by solution within the ruptured

starch-cells induces a much greater flow of saliva. Within the mouth in the molar grinding of the root the starch-cells are not only separated from the intractable woody fiber, but are themselves bruised open, with the result that the saliva may reach the starch itself. We may conclude that when the starch is brought freely into contact with the saliva, and this for a much longer period than is utilized in the mastication for the stomach, the process of ptyalization causes normal changes in the starch which can not be without their effect in the maceration which follows. That the method in Polynesia was uniformly that of chewing is substantiated by all the discovery record. We have further evidence of the great antiquity of the method, for in Samoa we find the word **'aumaga** employed to designate the young men in their ceremonial position in society, and this word is merely "the chewers." I assume the validity of the statement that in the interior of Viti Levu the original practice was to pound the root, but I have never seen it in the country of the Kai Colo. On the Fijian littoral, even of Viti Levu, pounding was distinctly understood to be a concession to foreign prejudices; the introduction of chewing from Tonga, if such were indeed the case, could hardly have reached the mountaineers.

In connection with the mixture of the two cultures on the Polynesian island of Tikopia I should make a note on the Verge Islands to the north (The Polynesian Wanderings, 4) even as far as Kapingamarangi north of the equator. While the inhabitants are almost pure Polynesians and might be expected to have the kava custom, we lack definite evidence in the scanty memoranda of their speech which has been published. I regret that in the loss of my field-notes I am unable to report positively upon the use of kava in that chain of islands. It is for that reason that in distributing upon my culture chart the boundaries of the kava and the betel I have left the Verge Islands out of the scheme.

To the kava people Dr. Rivers (p. 125) assigns the secret societies of the Banks Group and, by extension throughout the area of matrilineal culture, of the Fijian *nanga*. Before this determination can meet with whole acceptance it will be necessary to consider the Polynesian culture in this respect, for it is not to be denied that the Polynesians represent the highest attainment of that culture group. With the exception of the *arioi* of Tahiti we have no information as to the existence of any fixed body within the community which might be regarded as a society in the restricted and technical sense here involved, and even in the case of these joyous pagans we find naught of ritual and arcana which might suggest the society structure. Such being the case, it is difficult to accept this assignment of the societies to the kava culture, for it is inconceivable that a ritual observance should have persisted when the whole purpose of the ritual has vanished so completely as not to leave a trace.

Dr. Rivers notes (p. 130) that kava requires prolonged preparation. This is, of course, only comparative. My experience has been in Samoa, where the practice is made graceful by fine details of courtesy, that the preparation of kava, from the presentation by the guest of the dried root to the clapping of hands which establishes satisfaction with the strength of the infusion, consumes about 30 minutes.

Our author touches (p. 131) upon the portage of the ingredients of sirih-chewing. This engages directly with my suggestion (The Polynesian Wanderings, 139) of crop colonies. There is nothing inherent in the nature of the betel-pepper plant which would operate to preclude its carriage from one such port of call to the next, where it might be again cultivated to maturity and to fresh transport beyond. The difficulty is still less in the case of the areca nut. The seed, the portion which must inevitably be carried by the wanderers, since that is the part which alone is utilized in sirih-chewing, would at once suggest itself for planting in communities where the tree was not indigenous. The seed might be carried for at least a year, many seeds in small compass, for its germinating power would endure much longer than that period, and we must remember that in the conditions of such folk migration the actual time spent at sea was measured by no more than a week beyond the amount of water which could be carried in a canoe and the longest time between semi-permanent stops (those necessitated for revictualing) was equally limited by the impracticability of transporting with the voyagers in any canoe any considerable supply of staple vegetable food.

Continuing the theme, Dr. Rivers (p. 131) advances the supposition that the leaf of the pepper was first chewed and then the root was selected as producing more distinct results. I have experimented with both of the peppers involved in these two cultures. As to the kava pepper (*Piper methysticum*) I can report that the leaf contains in no appreciable degree the principle potent in the root, whether dry or undried. The leaf, somewhat succulent, contains an appreciable amount of sap, its flavor is almost wholly that of raw collenchyma, much as in the leaf of the cabbage, and, while there is a slight suggestion of pungency of the pepper type, it is far milder that that of the root of the radish. The root, on the other hand, while not more pungent or peppery than the radish, produces almost instantaneously an effect upon the mucosa of the mouth which is most comparable with the effect of a dose of magnesia; and this sensation extends even beyond the region actually in contact with the root chewed and in no long time is noticed as far as the pharynx, even though in the operation of chewing kava preparatory to maceration particular pains are taken to avoid even the slightest deglutition, in order that the comminuted root may be most practically ptyalized. The sirih leaf (*Piper betle*) has practically the same flavor as that of the kava pepper. For

itself it would scarcely be chosen, but in combination with the areca nut it is surely effective as an excipient and, so far as judgment may be based upon mere buccal testimony unsupported by chemical analysis, probably it has much value as an adjuvant. I have tested each of the three chief ingredients of the sirih quid, the lime and the areca and the betel singly, and also each combination of two elements. By itself or in combination with the lime the betel leaf amounts to nothing. By itself or in combination with the lime the areca nut lacks defined flavor; one is engaged in masticating a dry mass of woody fiber to no particular profit or pleasure. The addition of the sirih to the areca develops a flavor which neither had singly and the completion of the mess by adding the lime serves only to accent this conjoint flavor without appearing to add any new modifier of its own. I shall not attempt to set in verbal order the taste of sirih-chewing; to me it is objectionable; yet experience proves that its use will allay the sense of hunger when meals are too widely spaced.

Continuing this note, Dr. Rivers cites the existence of sirih in various parts of Polynesia. I have grave doubts of this. In the Marquesas Bishop Dordillon defines *kavakava-atua* merely as *poivrier sauvage*, which is neutral as to the point involved. In Nukuoro this composite form is used of *Piper methysticum*. In Tahiti *avaava-atua* is not recorded in Bishop Tepano Jaussen's dictionary, but he exhibits as the only identified variety *avaavairai* (*Piper latifolium*). In Samoa we have *'ava'ava-atua* and *'ava'ava-aitu* as synonyma for various species of pepper (*Piper latifolium*, *P. puberulum*, *P. insectifugum*). No dictionary of Polynesian speech includes the betel pepper.

Incidentally and in a by-path we should note the use of sago in Tikopia (p. 132). This is the characteristic food of Melanesia, just as the yam in certain regions and the taro in others are Polynesian staples. Its use in Tikopia is quite as much a trace of Melanesian culture advance on the forgotten Polynesian community as is the sirih-chewing. It is interesting to recall that in Fiji the use of sago was so completely out of mind that when Dr. Seeman discovered the tree and commented upon its food value the Fijians were wholly unaware of the method of washing out the fecula from its pith.

The list of material objects which Dr. Rivers presents as characterizing the culture of the kava people shows distinctly that grave difficulty will confront us in the effort to adjust the great Polynesian race to a position of membership among the kava people, by him defined as the hypothetical body of immigrants who introduced the use of this substance. The material objects which he is led to associate with the body of cultural possession or attainment denominated by its most distinctive object, the kava infusion (p. 135), may conveniently be restated: kava, shell-money, the pig, the fowl, the bow and arrow, the wooden gong, the conch shell, the fillet, the cycas. Poly-

nesian culture possesses of these the kava, in greater extent and involving more formal courtesy but completely lacking the ritual character observed in parts of its Melanesian occurrence. It has the pig, but merely as a food article; in parts of Polynesia, *e. g.*, Samoa, there is a bad connotation and the name is indecorous and must be replaced by a periphrasis such as four-legged animal. It has the fowl, also as food and lacking position in the myths, except that in Samoa a probably modern and quite etiological myth attempts to explain the obvious and misleading Sa-moa as the place of hens. It has the wooden gong in two forms varying in size, one portable by hand, the other requiring a rest upon logs on the town green, each form being of the same type of a hollowed piece of hard wood resonant under percussion. It has the conch shell pierced for use as a trumpet, but I have no knowledge of its employment for other than signal purposes.

Shell money has no existence in any of the Polynesian settlements. I have used the monetary term which has come into use for convenience, but I do not assume here to come to a decision as to its currency import. The resemblance between the *diwarra*, to employ one of the Melanesian names which has acquired some frequency of use, and the wampum of the eastern American Indians, particularly Iroquoian and by later extension Algonkian, is one of those obvious things which lead us into error. The strings of light and dark disks of shell in the western Pacific look like the strings of light and dark shell which constituted the familiar wampum. Inasmuch as wampum was known as a currency medium, and to that extent a money, it was easy to apply to the Melanesian strings the designation shell-money. Professor Frank Gouldsmith Speck, of the Department of Anthropology of the University of Pennsylvania, has established (lecture yet unpublished) that the currency employment of wampum is of extremely late development and that it was not Indian in origin, but was engrafted upon the ceremonial and mnemonic use of the material by contact with the Dutch settlers of the New Netherlands. If, therefore, the currency value of the source of this suggestion is disposed of as an excrescence, we may remain in doubt as to the currency value of the Melanesian shell-money. In my acquaintance with the use of the strings of shell disks in Melanesia I have never been satisfied that they serve the end of a circulating medium or money of account. The bow and arrow is scarcely to be held critical of a distinction between Polynesians and Melanesians. It is clear that the Melanesians employ it as a weapon of offense; it is equally clear that its use is excessively rare in the regions of uncontaminated Polynesian culture. We find it in full use in Fiji; in Tonga it was employed in the purely aleatory sport of rat-shooting; in Samoa and Tahiti it was a toy; the same is true of bows reported by Schmelz from the Tuamotu and by Friederici from Mangareva, both almost at the

extreme eastern limit of Polynesian settlement. In Easter Island, the ultimate of the Polynesian movement eastward, I find the arrow designated by *vero*, but as that word in general means a spear or lance, that is, properly a pointed weapon of offense which may be thrust forward but retained in the hand as a lance or may be cast as a missile spear, and since the word for bow is missing and there is found no such word as *fana* which elsewhere designates the shooting of the arrow, this incomplete record may be neglected. The fillet is one of the obvious conveniences of life when the hair is worn long and on that account it is misleading as a culture character.

In connection with the secret societies of Melanesia it is clear that the fillet has some ritual value. Dr. Rivers (History of Melanesian Society, 446) writes: "It is possible that the fillet of the Banks and Tikopia is a survival of such an elaborate head covering (the caps of the terminalia statues of Easter Island), in which case we should have another link between the ritual of secret societies and megalithic monuments." It is a far cry from a mere hair snood to a high hat, and when we carry it beyond to the megalithic monuments of the Pacific we stray in a mist of conjecture. The cycas is physically present in the vegetable kingdom of Polynesia; it has its textile use; but nowhere do we find any ritual connotation of any sort and even in Melanesia such connotation is narrowly restricted to a single group of secret societies.

We now recur to a consideration of the spread of the two culture objects which have prompted this long and intricate excursus, the betel and the kava. Our culture chart presents to the eye the principal areas of each of these cultures, the point of overlapping and slightly of intermingling lies in the central region of Melanesia. Sirih-chewing has a wide rearward extent. We can find it on the Asiatic continent in India; it covers the whole of Indonesia; it extends eastward in Melanesia along the Solomon Islands, with a small area at the south as yet unoccupied; it has made in Tikopia at least one inclusion of Polynesian people. The impression which we obtain from the study of the chart, from our own acquaintance of the movement forward in the Solomons to communities which within the memory of men had not yet acquired the habit, is of a custom which is steadily progressing. Because it comes later in the known path of migration, because in the vital instance of Tikopia we see it ousting the former kava custom, we look upon it as a modern habit, relatively, that is, to the great Polynesian migration swarming. The kava culture area presents an entirely different picture. Its intensity is deepest at the forward edge of movement; its rearward edge shows ragged persistence in the Melanesian area over which the migration has passed; we find in Tikopia a survival yielding before the advance of sirih-chewing; we find another such survival in Matankor of the

Admiralty Group; it is likely that in the islands of the Polynesian Verge, where in the chart a space is left blank, there is another survival. Sirih-chewing has its strong central body in Indonesia, it has in Melanesia an active and conquering advance guard; kava-drinking has its strength in Polynesia; in Melanesia it has nothing but a rear guard of weakness; and wherever the two come into combat it is the sirih which overwhelms. We regard the Indonesians as prime carriers of the sirih culture; at least we may say confidently that in every most distant region reached by Indonesians sirih-chewing is established. We do not regard the Indonesians as necessary for the portage of Indonesian custom to the extreme limit of the sirih area, there can be no trace of Indonesian origin in the sirih of Tikopia. But habits have a way of spreading, bad habits particularly. We know of no great voyages of Malayan peoples east of New Guinea, but we do know of many small voyages of social interchange, mostly war, between minor settlements of folk along the track from New Guinea eastward; such things are constantly taking place. We can readily conceive of a western hamlet which has received the sirih from Indonesians at first hand communicating it to the next eastern hamlet as a new thing, a satisfactory thing; therefore on the one score attractive to experiment with and on the other score valuable to hold. It communicates to the next, and still along new territory, always increasing the area in regions far ahead of the possibility of direct transmission from its source. I have seen exactly that method of translation in the case of Solomon Islanders and have witnessed the extension of the area. Dr. Rivers has recorded a similar case in Tikopia.

The spread of kava is in different plight. In its eastern extension it has been wholly in the possession of Polynesian people; therefore we are under no necessity of differentiating the Polynesians and the more extended group to which Dr. Rivers has assigned the designation kava people. The kava people from Samoa to Hawaii and Tahiti are Polynesians and nothing else. Through those regions of southern Melanesia, the New Hebrides complex, where we find kava we find such considerable linguistic traces as to warrant us in the conclusion that Polynesian migration has been commorant in those islands for periods of uncertain yet of considerable duration. With this linguistic picture clearly before our view we are under no need of looking for other than Polynesian carriers of the custom, if indeed it were not also a possession of such prior Melanesian population as that which Dr. Rivers denominates the dual people. In the northern region of Melanesia, principally the Solomon Islands, where our linguistic trace is even more strongly drawn, yet where the kava custom is all but absent, we have in Dr. Rivers's narrative a brilliant and cogent explanation of the vanishing of what may have been the older custom before the newer and more stimulating, therefore more satisfactory, habit; and in this same region we find the actual stage of transition.

Tangled as the problem may appear at the first and even at the second view, the clue may be threaded out. We find the kava custom in the possession of the people at present the sole and slightly, if at all, contaminated inhabitants of Polynesia. We have been able to trace through linguistic survivals the tracks of their migration; we have established their ancient occupancy of Indonesia, their traverse through Melanesia, their present possession of Polynesia. In Polynesia we find the complete, in Melanesia the partial, sway of the kava custom; in Indonesia the complete absence thereof and the equally complete dominance of sirih-chewing. In the treatment of this material Dr. Rivers shows that it is impossible to account for kava as introduced from Polynesia into Melanesia, and in this decision I am wholly at one with him upon the grounds which he adduces and upon others which have not come within the scope of his investigation. In general he inclines to regard the origin of kava as Melanesian in some sort, as there assumed by the wandering Polynesians and transported along their eastward course. In this direction he is led most strongly by two observed factors—the commonly ritual and religious employment of kava in Melanesia, its complete absence in Indonesia. The latter of these will be included in our further discussion of the problem. The former seems to me to clear itself up. If we look upon primal Melanesia as inhabited by peoples ignorant of the kava custom, if we introduce thereto in the migration movement the greatly superior Polynesian culture carrying the kava custom, we should look to find the Melanesians adopting somewhat timorously, on the established principle of *omne ignotum pro magnifico*, this distinctive custom of the strange and conquering race. It would then be natural to find this custom surrounded by evidences of the respect which the superior Polynesians had won for themselves and all that was theirs; we should find the foreign custom restricted to chiefs, to religious ceremonies, to the mysteries of the secret societies; and these are precisely the Melanesian restrictions upon kava.

The assignment of a strictly Melanesian source of kava is not sufficient to account for the spread of that culture through the Pacific. I have set forth two migration swarms out of Indonesia into the Pacific—the Proto-Samoan the elder, the junior Tongafiti, separated within the mixing area of Nuclear Polynesia by a considerable lapse of time, and I have made it clear that while the Proto-Samoan course lay along the island chains of Melanesia in two somewhat distinct streams, the Samoa stream up the wind and the Viti stream to leeward, the linguistic record makes it plain that the Tongafiti course lay entirely outside of Melanesia. In Nuclear Polynesia we have had considerable success in distinguishing these two migrations, and in this distinction we have found each to be in possession of the kava custom. It would be impossible to assign a Melanesian origin to the

Tongafiti kava, since that migration had had no communication with Melanesia. We have not been able to lay out the early track of Tongafiti migration, except in this particular of Melanesian exclusion. I have suggested that it is possible that such careful examination of the speech material of Micronesia as we have been able to expend upon the speech material of Melanesia may reveal the traces of Tongafiti entrance into the Pacific by an equatorial or northern traverse. It is at this point proper to note that in Micronesia we have the kava custom more or less widely extended, and in this case intercommunication with Melanesia is expressly contraindicated.

We have botanical evidence of the existence of the physical basis of the kava custom in Indonesia; the *Piper methysticum* is reported from several islands, although it is not now in use. The conditions of the problem are most satisfactorily met by assuming the origin of the kava custom among the Proto-Polynesians during their residence in Indonesia anterior to the Christian era, and further assuming its expulsion therefrom in the company of its addicts by the sirih-chewing Malayan invaders. From this source we can see the Proto-Samoan migrants carrying the kava custom through Melanesia (this without prejudice to a possible independent development of a kava usage in Melanesia, which would be neutral so far as regards our greater problem), and we can suggest for later determination the explanation of Tongafiti migrants carrying the kava custom into such subdivisions of Micronesia as we know to practice it. We have already bestowed considerable attention upon the advance of sirih-chewing upon peoples addicted to the kava custom. By combining these two elements, the older and the more modern customs, we shall find an explanation of the present distribution of sirih and kava which seems to entail no serious difficulty at any point.

91. **suk** nose.

39. **iru**	Bahasa, Ambon, Kolon.	54. **ison**	East Ceram.
40. **hiru**	Bahasa, Ambon.	55. **lisu**	Bahasa.
41. **irun**	Minahassa.	56. **iri**	Bahasa, Ambon.
42. **irung**	Java.	57. **ili**	Bahasa, Ambon.
43. **idung**	Java.	58. **ïleng**	Bontoc Igorot.
44. **inu**	North Ceram.	59. **nien**	Buru.
45. **niru**	North Ceram, Allor, Minahassa.	60. **nieni**	Buru.
46. **nirun**	Kei.	61. **ninin**	East Ceram.
47. **ngirung**	Minahassa.	62. **uruna**	Malagasy.
48. **ngilung**	Minahassa.	63. **urong**	Dyak.
49. **ngijung**	Celebes Alfuro.	64. **kamuru**	Macassar.
50. **ilu**	Bima.	65. **ngunu**	Halmaheira.
51. **nilunu**	Kei, Banda.	66. **nunu**	Ternate.
52. **ninu**	Bahasa.	67. **usnut**	Gani.
53. **ninura**	Ambon.	68. **soong**	Subanu.
		69. **nge**	Buru.

The Indonesian material shows the same interlacing of **isu** and **usu** forms as in Melanesia and at the edges of Polynesia in Viti and Kapingamarangi, the **isu** type being represented by the forms 39–55, the **usu** by 62–68. In this speech area we find a significant group of transition, or at least intermediate, forms in which the vowel

framework is of the type i–i or i–e as shown in the forms 56–61. Common to Indonesia and Melanesia are the forms **iru** (39 and 8) and **ilu** (50 and 9), and close similarity is exhibited in many other forms.

The stem consonant **s** remains unchanged in Indonesia far less frequently than we have found it in Melanesia; it is found in 54, 55, 67, and 68, of which the last-cited displays an anomaly. A mutation from weak to strong is observed in the passage to **d** in 43. In general it shows a greater tendency to weakening than has been the case in Melanesia. We find mutation to the liquids quite common, to **r** in 39–42, 45–47, 56, and 62–64; to **l** in 48, 50, 51, 57, and 58. Mutation to the nasals, a brief step short of the liquids, is found to **n** in 44, 52, 53, 61, 65, and 66. The mutation to **j** (y) in 49 is in the direction of extinction and forms a ready bridge to the loss of the stem consonant in 59, 60, and possibly 69. The prefaces, of equal application to **isu** and **usu** forms, are such as we have seen in Melanesia, **n** in 45, 46, 51–53, 59–61, and 66; **ng** in 47–49, 65 and 69; **l** in 55; and in addition the aspirate in 40. The form 55 **lisu** is of peculiar moment, because we are able to trace it on the line of transit through the Dampier-Vitiaz Strait (30 Tami) along the very interesting southern Solomon region as far as Maewo in the New Hebrides. Final consonants occur as **n** in 41, 46, 54, 59, and 61; **ng**, in 42, 43, 47–49, 58, and 63. We have added syllables **na** in 62, **ni** in 60, **nu** in 51, **ra** in 53.

While there is a wide variety of forms in the three language areas, the mutation system is readily acceptable, and the **isu** and **usu** types are so satisfactorily spaced along the migration track that we can feel convinced of the substantial unity within the variety of this word.

99. **tenan** mother.

28.	**tinan**	Klemantan.	
29.	**tinâno**	Rumbia.	
30.	**tiwâno**	Maronene.	
31.	**inà**	Sassac.	
32.	**ina**	Subanu, Bontoc Igorot, Teor, Kolon, Bima, Amblaw, Liang, Lariko, Saparua, Caimarian, Awaiya, Wahai.	
33.	**inai**	Klemantan, Ahtiago.	
34.	**inahân**	Visayan.	
35.	**guina**	Subanu.	
36	**inâna**	Bouton.	
37.	**inany**	Menado, Dorey.	
38.	**inúngi**	Sanguir.	
39.	**inano**	Mengkoka.	
40.	**inânu**	Muna.	
41.	**inamo**	Kayeli.	
42.	**inao**	Morella, Batumerah.	
43.	**inau**	Teluti.	
44.	**neina**	Wayapo, Massaratty.	
45.	**aina**	Tobo.	
46.	**nina**	Gah, Matabello.	
47.	**nin**	Mysol.	

We have here no material additional to that which has been recorded in the consideration of the word in connection with its appearance in the Subanu. In Indonesia we find but three forms which preserve the **t** of the Polynesian which enters so largely into Melanesian use, but these three quite suffice for purposes of identification. All other Indonesian forms are readily discoverable in Melanesia except 45 **aina** and 47 **nin**, forms which are substantially established by Indonesian resemblances.

100. **tín** membrum virile.

19. **uti** Rotti, Timor, Ambon, Ceram, Gorontalo, Bunda, Subanu.
20. **wuti** Gorontalo, Bunda.
21. **otin** Visayan, Tagalog.
22. **ōti** Bontoc Igorot.
23. **utien** Tuburuasa.
24. **butu** Lombok.
25. **wota** Savu, Sumba.
26. **us** Karas.
27. **ul** Lamotrek.

The particular interest of this list lies in 27 Lamotrek **ul**. It is not Indonesian but Micronesian, and occupies a most important position in the understanding of the Polynesian vocables. We find in Viti the **uti** form with a straight chain of migration from Indonesia throughout Melanesia. But the Polynesian form is **ule**. The occurrence of **ul** in Micronesia is a landmark of migration through the equatorial Pacific, such as I have suggested as the probable track of Tongafiti movement out of Indonesia. Although **uti** and **ule** here represent different stages of migration and totally different paths, the two forms fall into association, for the mutation l–t or t–l is frequently found. We are therefore justified in holding the t forms the older and in regarding **ule** as a later development, possibly at some point after the Tongafiti left Indonesia upon that little-discoverable course which led them into reunion with the earlier migrants of their own people in Nuclear Polynesia.

101. **tō** sugar cane.

26. **tebu** Malay.
27. **tobu** Ambon.
28. **tob** Makian, Vier Radja.
29. **towu** Barëe Toradja, To Bungku, To Mori.
30. **tohu** Ambon.

Except for the slight vowel change in Malay, these Indonesian forms are in accord with those which we have recorded from Melanesia and from Fiji. Interest attaches to 29 **towu** and 30 **tohu** as showing that even so far away as Indonesia there is a tendency to the reduction toward the quite general Polynesian **to**.

110. **vus** rain.

46. **oha** Bolanghitam.
47. **usan** Kayan.
48. **uan** Gah.
49. **huya** Sula.
50. **ulah** Amblaw.
51. **ulan** Gani, Wahai, Salu, Timor, Tobo, Ambon, Ceram, Makian.
52. **olan** Visayan.
53. **hulan** Liang, Morella.
54. **ulane** Awaiya, Ambon.
55. **ulani** Kayeli, Caimarian.
56. **hulani** Batumerah.
57. **ulano** Minahassa.
58. **ulanu** Bual.
59. **ura** Ende.
60. **hura** Galela.
61. **uran** Tidore, Pampanga, Solor, Sikka, Minahassa, Ambon, Ceram.
62. **huran** Baju
63. **haran** Lariko.
64. **urana** Ceram.
65. **hurani** Teor.
66. **orana** Malagasy.
67. **urano** Ambon.
68. **urang** Bugis.
69. **urong** Salibabo.
70. **udjan** Togean, Minahassa.
71. **ūtchan** Chamorro.
72. **ōtjan** Bontoc Igorot.
73. **hujan** Malay, Sandol.
74. **uda** Kaili, Minahassa.
75. **udan** Rotti, Minahassa, Bontoc Igorot.
76. **hudan** Java.
77. **udama** Matabello.
78. **ut** Mille.

In this Indonesian assemblage we discover the Proto-Polynesian **uha** in practically unmodified form in 46 **oha**, the reformed metathetic Rotumā **uas** in 47 **usan**, the common Polynesian **ua** in 48 **uan**, and 49 **huya** is but lightly differenced therefrom. This Proto-Polynesian type may be traced without much confusion in a comprehensive chain throughout Melanesia into Nuclear Polynesia and thence eastward by purely Polynesian migration movements. The remaining Indonesian forms are almost wholly variant forms of a consistent series of development by the mutation of the central consonant from **h** onward. From 50 to 69 the change is a mutation to the liquid semivowels **l–r**; this mutant occurs sparsely in Melanesia (14–17) on the north shore of New Guinea at Manám, somewhat inland on the south shore of the great southeastern peninsula of that island, off the south shore of Neu-Pommern, at Buka and Bougainville at the north of the Solomons, and widely removed at Gog in the northernmost New Hebridean complex. It suggests the traverse through the Dampier-Vitiaz exit with a rearward coastal movement to the Rubi locus. A strengthening mutation to the mute of the lingual series **d** is found in 74–77, a variant which is absent from Melanesia. The intermediate mutation to **dj** (70–72) appears only in 13 Guadalcanar **utha**, and that may be a secondary development from another mutant form. We are therefore justified in the decision that in the general migration through Melanesia it was only the **uha** type that was transported, that the Polynesians left Indonesia before mutation had begun, and that a much later partial migration in the former track after corruption had set in is responsible for the slight trace of the **ura** type. I have included the **ut** from Mille as showing that the migration eastward along the equator carried to Micronesia a later form of evolution and thus indicates the relatively modern period of Tongafiti migration.

115. **wesch** paddle.

75. **fosa**	East Ceram.	77. **bogsay**	Visayan.
76. **bosoi**	Celebes Alfuro.	78. **fohe**	Subanu.

We are still left with a paucity of Indonesian material, but these forms show that Polynesians left behind them here, as all along their Melanesian traverse, evidence of the early **fohe** type of stem.

116. **wok** boat.

42. **waga**	Wayapo, Massaratty, Buru.	47. **bangca**	Visayan, Pampanga.
43. **waha**	Tobo.	48. **făngka**	Bontoc Igorot.
44. **waa**	Kayeli, Amblaw.	49. **bunka**	Bouton.
45. **haka**	Liang, Morella, Batumerah, Bahasa.	50. **wanga**	Bolaäng, Mongondou.
		51. **wangkang**	Malay, Macassar.
46. **banca**	Tagalog.	52. **wōg**	Gani.

This not only preserves the history of the stem in Indonesia, but enables us to reconstruct the primitive form. This offers an unsuspected glimpse at the beginning of Polynesian phonetics.

In the present stage of Polynesian speech we find only the surd of the palatal mutes, and we observe that a tendency is strongly marked to drop this **k** in many of the languages. That the kappation of the **t** is in many cases succeeding this extinction of the **k** may be taken as evidence of the long existence of this movement to drop the palatal. If the Proto-Polynesian vocable had been **vaka** we should expect to find in later forms only **vaka** and **vaa**, for this consonant entails no difficulty to those who have retained it. In this comprehensive survey of the history of the word in the three language areas the Fijian now for the first time affords a clue to the past. It employs the form **wangga**, in which we see the sonant mute **g** prefaced by the nasal of its own series, a mechanical device with which we have become quite familiar in the course of these studies. The Viti possesses the surd **k** and finds no difficulty in its employment. Accordingly if the vocable in the form in which it was brought to Fiji had been **vaka** we should find **waka** in Viti. But the Fijian has shown himself particularly sedulous in preserving the sounds of speech importations, even when they involved consonants quite unfamiliar to the usage of his own phonetics. Here we have evidence that by his characteristic method of employing the serial nasal preface the Fijian has done his best to preserve the sonant **g** alien to his speech and has succeeded with most interesting results. This shows clearly that the word when brought to Fiji was **vaga**. From this we may argue that Proto-Polynesian was in possession of the sonant **g**, that finding it objectionable the early members of the family allowed it to become surd **k**, and that in later times the same objection to the palatal mute led to its extinction, a process which is still operative in living tongues of the family. With this clue from Viti we can trace the same movement in Indonesia (46–51) and in Melanesia (14–15, 17, 19–20, 34–35, and 39). The original stem **vaga** is preserved in Indonesia in 52, and in Melanesia is of very frequent occurrence.

CHECK-LIST OF INDONESIAN LANGUAGES.

The subdivisions of Indonesia are in no sort in this finding list governed by any scheme of linguistic provinces, for the determination of such a distinction has yet to be made. Here no object is sought but that of geographical convenience. I have accordingly made a division into five general parts as indicated by the following initials. The western division denoted by W includes Sumatra, Java, and Bali with the Malay language. The central region, C, comprises Borneo and Celebes. The eastern division, E, includes the islands between Celebes and the coast of New Guinea, principally Sula, Ceram, Banda and Gilolo or Halmaheira. The northern division, N, consists of the Philippines with the Sulu Archipelago as a purtenance. The southern division, S, includes the chain from Lombok to Timor Laut.

Ahtiago	E
Ake Selaka	E
Alfuro	E
Allor	S
Amblaw	E
Amboyna	E
Aru	E-S
Asililu	E
Atjeh	W
Awaiya	E
Bagobo	N
Bahasa tanah	E
Baju	C
Bali	W
Baliyon	C
Banda	E
Banka	W
Bara	E
Barëe	C
Basakrama	W
Batak	N
Batavia	W
Batjan	E
Batumerah	E
Bentenan	C
Beu	
Bicol	N
Billiton	W
Binue	
Bobongko	C
Bolaäng	C
Bolanghitam	C
Bonfia	E
Borneo	C
Bouton	C
Brissi	S
Bual	
Bugis	C
Buli	E
Bunda	C
Buru	E
Caimarian	E
Celebes	C
Ceram	E
Champa	N
Dorey	E
Dyak	C
Ende	S
Flores	S
Gah	E
Galela	E
Galoli	S
Gani	E
Gilolo	E
Goram	E
Gorontalo	C
Halmaheira	E
Hila	E
Huamual	E
Hukumina	E
Igorot	N
Ilocan	N
Java	W
Jobi	E
Kaibobu	E
Kaili	
Kaioa	E
Kawi	W
Kayan	C
Kayeli	E
Kei	E-S
Kissa	S
Klemantan	C
Lampong	W
Landak	C
Lariko	E
Liang	E
Lobo	
Loda	E
Lombok	S
Lubu	W
Macassar	C
Madura	W
Magindano	N
Mame	
Manatolo	S
Massaratty	E
Matabello	E
Matu	
Menado	C
Menangkabau	W
Minahassa	C
Mindanao	N
Mindoro	N
Moluccas	E
Mongondou	C
Morella	
Moro	N
Mysol	E
Napu	C
Nusalaut	E
Ombay	S
Palamata	E
Pampanga	N
Pangasinan	N
Pani	
Patani	E
Patasiwa	E
Piru	E
Ponosakan	C
Punan	C
Roni	E
Rotti	S
Salayer	C
Salibabo	C
Sandol	
Sanguir	C
Saparua	E
Sarawak	C
Saru	C
Sassac	
Savu	S
Serwatti	S
Silong	W
Sirang	E
Siwa	
Solor	S
Subanu	N
Sula	E
Sulu	N
Sumatra	W
Sumbawa	S
Sunda	W
Tagalog	N
Teluti	E
Teor	E
Ternate	E
Teto	S
Tettum	S
Tidore	E
Timor	S
Tiruray	N
Tobelo	E
Tobo	E
Togean	C
Tomaku	E
Tombulu	C
Tondano	C
Tonsawang	C
Tonsea	C
Tontemboan	C
Toradja	C
Tringanu	W
Udjir	E-S
Vaiqueno	S
Visayan	N
Wahai	E
Waigiou	E
Watu Bela	E
Wayapo	E
Weeda	E
Wetta	S
Wokam	E-S

CHAPTER VI.

GEOGRAPHY OF THE MIGRATIONS.

When we essay to set upon charts of the island regions the linguistic data presented in the foregoing chapters, we find our studies clarified in certain particulars and complicated in yet others. In the course of these studies every one of the vocables developed in the examination of the Sissano material has been entered on large-scale charts of Indonesia and of Melanesia respectively. These results have been checked by similar graphic entry of all the vocables discussed in "The Polynesian Wanderings" and in "The Subanu." It results, therefore, that we have delineated in terms of geography the great bulk of that element of one or more languages of Polynesia which can be identified as common with one or more languages of Indonesia, and for the most part which has been discovered in languages of Melanesia. These individual charts have been consolidated for the establishment of the more general and characteristic tracks of speech movement and are now open for discussion.

Before engaging our attention with the tracks of speech movement it will be well to devote our attention to the cultural areas of Melanesia. So far as relates to the present investigation we assume the practical uniformity of the culture of Indonesia and of Polynesia. It is true that in many particulars each of these areas exhibits considerable variety of social order and its manner and custom is by no means uniform, but in the present study our purpose will best be served by assuming two practically uniform societies, and by examining the intervening Melanesian area as the field whereupon we shall observe the interchange of these diverse cultures.

Because the social order of Melanesia is as yet too scantily known we can not work surely in dissecting out purely Melanesian material. But we must bear in mind that Melanesia, before it fell under the influence of Polynesian culture at one period and of Indonesian culture at another and probably much later period, surely had at least one culture group of its own. In the present state of our information there is a suggestion at least worthy of consideration that three somewhat distinct cultures have occupied diverse regions in Melanesia. Quite provisionally and merely for convenience I propose the subdivision into Buka culture as designating the social state of the northern Solomons and the eastern Bismarck Archipelago; Solomon culture for the southern Solomons and adjacent islands; New Hebridean culture for southern Melanesia. It is very doubtful that the culture of New Caledonia and the adjacent Loyalty Islands may be included in the proximate New Hebridean culture; there seems something far more archaic and certainly far less mixed with alien

culture elements, and it may prove that this extreme southern region will fall into a group of its own. It is equally clear that in southeast New Guinea and in the western Bismarck Archipelago we have a culture which differs from that of the Buka. On the north coast of New Guinea we find an interlacing of cultures, some of which may be assignable to Melanesian. In the southeast Ray has set forth a dual system of Melanesian and Papuan. This is good as far as it goes, but his Melanesian of British New Guinea will need further study before we may feel sure of its association with the Melanesian of other regions.

Thus it will be seen that we are not in position to postulate anything like a consistent Melanesian culture upon which has been overlaid the alien cultures of Polynesia and Indonesia respectively. We look rather for several somewhat discrete cultures in Melanesia as persisting under the foreign veneer and at times protruding through the overlying mass.

In like manner, as there is variety in the subsisting base of Melanesian culture, so is there diversity in the application of foreign influence. In general it is probably safe to characterize the application of Polynesian culture as direct, the product of personal contact during the period of the migrations; and to characterize the movement of the advance of Indonesian culture as a movement of convection where new cultural phenomena have indirectly extended in advance of the zone of personal contact of Melanesians with Indonesians and have reached new ground by the gradual spread of new material and moral objects. We should, then, expect to find in the Melanesian area at least these possibilities: one or more regions in which a Melanesian culture remains practically unmodified by alien accretion; regions in which Melanesian cultures have been modified by Polynesian culture. Such would be the condition throughout Melanesia after the Polynesian migration era and before the succeeding era of Indonesian influence. When the Indonesian culture followed more slowly over a Melanesia thus conditioned we should look for three possibilities—a Melanesian culture still unmodified by either culture, a Melanesia modified by one or the other culture, a Melanesia first modified by Polynesian culture and then by the Indonesian and showing various degrees of intermixture and assimilation of the three elements.

Such a subdivision is natural in any hypothesis. It is really a statement of the problem far more simple than would arise in actual study if we had all the data upon which to rest such an investigation. On this plan we should be dealing with at least five secondary stages of no less than three Melanesian bases, sufficient to show that the subdivision of Melanesia by culture areas would be a problem far from simple. It is by reason of this intricacy which I have sought to

suggest must essentially inhere in the problem that I have restricted my cultural chart to a very few elements and to such only as appear before us with any wealth of data.

In the cultural chart (Chart I) the division by tint distinguishes a culture division which beyond any doubt represents two alien cultures with the least possible admixture of a subsisting Melanesian culture. Here we have the areas of the kava culture of the Polynesians and the sirih culture of the Indonesians. It is botanically possible that the area of the culture may represent an admixture of Polynesian upon a Melanesian base. In a few instances noted in the linguistic discussion of this theme we may admit the persistence of Melanesian kava culture, but in the main this kava culture is distinctively Polynesian. In the area of the sirih culture we see at present nothing which might suggest a subsisting Melanesian culture. The Indonesian source is beyond doubt, even though we find the culture extended far beyond the direct reach of Malayan voyages. The sharpness of the boundary between the two cultures is more graphic than real. It will be seen that in the geography of Melanesia we are not dealing with land-masses of any considerable size, but with islands which fall loosely into groups where canoe-sailing is possible from any point of departure to the next landfall immediately in view, and these groups are generally separated by such intervening spaces of empty sea that voyaging must be fortuitous to navigators lacking compass and chart.

It is only at a very few points, therefore, that this sharpness of boundary as set forth on the chart needs consideration. In a negative sense two of these considerable points are in the Admiralty Islands north of New Guinea and the region of Vanikoro-Ticopia north of the New Hebrides complex, these being the sole instances in which is found any concurrency of the sirih and kava customs. As already explained, the apparent lacuna between the two cultures in the region of the islands of the Polynesian Verge to the east of the Solomon Islands is based upon mere paucity of vocabulary material; the probability is that these islands fall within the kava culture area. The only important point of a sharply drawn boundary lies in the southern Solomons. Here is a narrow and readily voyaged strait; on the windward side of it the sirih culture is fully established, to leeward Guadalcanar and San Cristoval lie outside of both cultures. We have some grounds for looking upon this leeward group as having at one time had the kava culture which has now passed out of memory, that in the advance of the sirih culture it has been passed by.

This particular area of the southern Solomons attracts our attention in the consideration of another specific problem. The two problems do not appear associable, except in geographical community, for one to a certain extent appears to postulate the absence of Polynesian influence and the other its presence. This second problem has to do

with the amount and quality of the Polynesian content in the languages of Florida and Guadalcanar facing the northern seaway of Malanta and in the languages of San Cristoval and Ulawa facing Malanta's southern seaway; to which must be added the wholly Polynesian communities still farther to leeward in Moiki and Moava.

At first glance there seems to be a discrimination between the two regions in the two Malanta seaways which exhibit this marked amount and highly specific quality of Polynesian linguistic material; but when we assign the vocabulary material to its proper place on the chart this discrimination vanishes. Of some three score vocables in the languages of these two groups which are recognizably Polynesian inclusions in various Melanesian tongues we find 49 which appear in both seaways, 11 that are restricted to the northern channel, and but 6 which are found in the southern channel without extending to the northern. The group in the northern seaway seems to have its center at Belaga, to extend with great frequency to Vaturanga at the north of Guadalcanar, with only a slightly less frequency to Bugotu and Ngao at the south of Ysabel, and in a markedly lower degree to Alite upon the nearest part of the west coast of Malanta. The southern group forms the figure of a quadrilateral of fairly equal frequency on each face, the determining points being Wango and Fagani on San Cristoval; Saa and Bululaha on the southern tip of Malanta, regarded as amounting to but a single locus; Ulawa, lying to windward of the channel proper. Neglecting the six vocables which appear in the Ulawa-Wango complex without identification at the north, regarding with particular insistence the established direction of Polynesian folk movement, I incline most strongly to regard the Belaga group as the center of speech distribution within these two areas. Force is added to this view by the fact that in this northern seaway we encounter several vocables which next appear in Nuclear Polynesia and appear to have come at no point into such contact with the peoples of the New Hebridean complex as might result in lending speech material. This double locus in the southern Solomons, therefore, appears as a valuable point for the identification of the Samoa stream of Proto-Samoan migration which I have already proposed.

In connection with this double locus in the southern Solomons we find an interesting check control station at Alite. So far as we may employ a system of examination by comparison of the quality of comprehensibility in the Polynesian loan material, Alite falls far below Ngela 'and Belaga. This we should expect to find. The character of the migration of the Polynesians, small flotillas of adventurous comrades keeping together for mutual protection, is such as to condition the results of their intercourse with Melanesians to small islands where their numbers and their military effectiveness would secure their safety during the more or less extended terms during

which they were forced to lay up for the growing of new crops as victual for their voyages. Alite, however, being on the mainland, could offer at best but an insecure halting-place, and whatever Polynesian influence might have made a lodgment would tend to obliteration in the greater numbers of the population of the larger island, which would resume its sway after the passage of the intruders.

Sufficiently near to be considered in connection with this region of strongly marked Polynesian influence in languages distinctly Melanesian, we note the occurrence of almost pure Polynesian settlement in Moiki and Moava, the Rennel and Bellona of the charts. We can not establish the origin of this settlement. If we accept the possibility of a migration track through Torres Strait south of New Guinea it is quite consistent therewith to regard Moiki and Moava as a station thereupon; the chief objection thereto inheres in the problems of navigation and canoe-sailing, and to this objection full weight must be given. During the trade-wind season the winds over that tract of sea blow most commonly from east and southeast and generally within that sector. From any point of departure in the mouth of Torres Strait or at the nearest of the Louisiade Islands either of these winds would be a head-wind and no canoe could lay a course which would fetch these two islands. The same objection holds as to a possible migration track along the north shore of New Guinea and through the Dampier-Vitiaz exit with Kiriwina or Nada as a point of departure.

No difficulties of seamanship appear when we investigate the possibility of a Moiki settlement from a highly distinct Polynesian track in another direction. Parallel with the northeastern aspect of the chain of the Solomon Islands we find at no very great distance offshore the islands of the Polynesian Verge, a clearly marked trace of Polynesian folk movement established north of the Line in Nukuoro and Kapingamarangi, and south of the equator in Tauu, Nuguria, Nukumanu, Liuaniua, Sikaiana, Ticopia. We see upon the chart a very attractive suggestion. If a straight line be laid down with one end at Nukumanu-Liuaniua and the other at Moiki-Moava, it will be seen to pass through the Solomon Islands in the fairway between Guadalcanar and Malanta, and this fairway is the region in which we have found such distinct evidence of Polynesian loan material in the languages of Ngela, Vaturanga, and Wango.

The mere drafting of straight lines upon charts is idle delineation unless the lines may be brought into correlation with known forces of nature. In this sea area the rhumb of the trade wind is predominantly east. This and other meteorological constants are available for study in the Pilot Charts of the South Pacific for each quarter of the year. It scarcely needs argument to establish the period of canoe voyages in the Pacific as conditioned by the prevailing fair-weather season of the trades and as avoiding the discomfort and peril of the rainy season

of baffling winds and frequent hurricanes. Taking the Nukumanu-Liuaniua point of departure, the easterly trade-wind would offer the best point of sailing for a double canoe through the critical channel of the southern Solomons and thence to Moiki-Moava. This is not proposed as a definite solution of the problem, for it is not by any means a simple one, but it is offered as suggesting a possible explication in the terms of seamanship which must underlie such migration as this in the Pacific conducted wholly by sea and in lumbering canoes.

Another social boundary is laid down upon the culture chart with considerable approach to accuracy, this being now for the first time possible by reason of the careful collation which the random material has undergone at the hands of Dr. Rivers. The theme in this instance is social, the fundamental character of the family unit. The regions lying south and west of this line are in possession of the dual society in which the dominant factor of sex relation is the existence of marriage classes and the principle of exogamy. The area in which this holds embraces New Guinea and all of Melanesia. In this, as in two other social elements, I have suggested a subdivision of Fiji. In this archipelago the line of demarcation is not to be considered as possessing positive geographical value; such value it may no longer be possible to extract from the plexus of intermingled Polynesian and Melanesian material in Fiji. But it does seem to me advisable to utilize this method of directing attention upon the fact that Viti is not to be regarded as wholly Melanesian in its culture any more than in its language. Since the windward islands show linguistically and somatically the greater proportion of Polynesian elements, far more than can be charged up to the recent interchanges with Tonga which we know to have preceded the period of European discovery history by only a few generations, it has been deemed satisfactory to draw these lines suggestive of social demarcation north and south through the Koro Sea in effectively the center of the archipelago.

Apparently as an enclave within the area of the dual society there exists a somewhat irregularly placed region in which we find in present existence or readily deducible from surviving customs a social order characterized concurrently by the order of matrilineal descent and the maintenance of the social state through confraternities accompanied by more or less of the mystic and magical characters. This enclave includes to the north that Guadalcanar and San Cristoval region in which we have already particularized the absence of the sirih culture, and approximates the area which we have just had under consideration as a fairway between Liuaniua and Moiki-Moava. In the New Hebrides complex the enclave is heavily set upon the Banks Group and Torres Islands, which in certain other particulars exhibit points of difference from the peoples of the northern New Hebrides with which in general they are associable. The extension of this

social area to Melanesian Fiji is not so clearly established as is the case in its northern and central determining points, but by inference from many custom survivals we are amply warranted in drawing the boundary as presented upon the accompanying chart.

With far less accuracy of determination I have felt justified in delineating the line of demarcation of the pottery culture. In general we may feel confident that fictile art is a Melanesian possession and is quite lacking to the Polynesians. But the presence of pottery is quite irregularly spaced within the Melanesian region. The line on the chart is provisional only; there is a great paucity of data, and for many communities the evidence must be characterized as inconclusive. It is, therefore, quite certain that this boundary will require extensive readjustment.

In an even higher degree this uncertainty characterizes an important culture determinant, the employment of the bow and arrow. I have not yet succeeded in differentiating the use of the bow as an offensive weapon (in general Melanesian) from the bow as an implement of sport or toy of the young (in general Polynesian but with a possible exception in the Tuamotu which upsets all calculations). For this reason I have not essayed to draw upon the culture chart the curve of the bow-and-arrow custom. An excellent beginning of the study has been published quite recently by Friederici (Ein Beitrag zur Kenntnis der Trutzwaffen der Indonesier, Südseevölker und Indianer, Baessler-Archiv, Beiheft VII, 1915). He presents two charts covering Indonesia, Melanesia, and Polynesia, one for the bow and the other for the arrow; for the bow he outlines the geographical extension of bows of three types, or rather of three linguistic stems, and for the arrow he shows two types.

A wholly anomalous and alien culture element makes a brief but distinct and positive entrance into the area under present discussion. On this account the curve of the loom culture is of peculiar interest. The art of the webster is quite absent from Polynesia; in Melanesia it is clearly established in Ndeni and in the northernmost of the Banks Group. The occurrence of the loom in islands of the Polynesian Verge need not be taken to militate against its absence from Polynesian culture in general, for the weaving of Liuaniua and Nukumanu is to be regarded as merely establishing a migration stage of a foreign art. The nearest locus of the textile art is in Micronesia north of the Line, where, in the Caroline Islands, it has attained a high development within certain material limits. For this reason I have decided to express the curve of the Verge and Melanesian occurrences of the loom and of woven fabrics as opening toward the north in suggestion of a probable derivation from the Carolines. We lack any data upon which to postulate communication between the Verge islands and the Melanesian islands, in which woven fabrics persist from such modern

antiquity as is possible to delicate materials in lands where humidity and mildew work together to limit durability, for in these islands we can infer the loom only from the web. But in Nukumanu and Liuaniua, as well as in other islands of the Polynesian Verge, we encounter a mass of legend whose interpretation looks toward some degree of communication with the equatorial islands by way of Kapingamarangi. Upon this point attention is directed to the investigations of Thilenius (Ethnographische Ergebnisse aus Melanesien, I Theil, Die Polynesischen Inseln an der Ostgrenze Melanesiens, Nova Acta, Halle, 1902).

Before we enter upon the detailed examination of the general track or tracks of speech movement out of Indonesia through Melanesia into Polynesia we must devote particular attention to a critical area represented by New Guinea. This great island interposes a mass of land in the general sweep of folk migration out of the Malay seas which is to be considered not so much an obstacle as a conduit. In the modern navigation of vessels well found and equipped with instruments of mathematical precision for their direction, New Guinea is an obstacle to the seaman, a region of channels tortuous through a tangle of hidden dangers, a land-mass to be shunned. To the primitive voyager in his crazy canoe, following the line of coast from headland to headland, completely lost when driven offshore, such a land-mass is a welcome aid to his navigation. Ignorant of any haven to which his wanderings may bring him, he is content to coast in the stiller waters and to follow the leadings of the shore always within his view. To the Proto-Polynesians under the impulse of flight out of Indonesia before the better-armed Malayans advancing from the west, New Guinea has projected itself as a wedge deep into the channel of their escape. In the nature of this flight there is naught which might predispose to a course on one side of New Guinea or the other. Those who put to sea from the northern islands of the Malay Archipelago would reach the New Guinea coast at various points on its northern shore and would be led generally eastward under the orientation with which the whole course of their migration is instinct. Other bodies of wanderers coasting along the southern tier of Malayan islands would reach the New Guinea coast along the Arafura Sea and would be led generally eastward on their flight. Those whose flight took its departure from islands centrally situated in Indonesia, *e. g.*, Celebes, on reaching the nearest New Guinea coast might be led in either direction, as determined by some condition quite narrowly local. When first encountered in the line of flight the New Guinea wedge produces but a slight deflection, yet in the middle course the divergence of the two streams is great. In my judgment they did not reunite until many weary leagues of sea had been passed and the severed fleets reassembled first in Nuclear Polynesia. It is upon this

judgment, itself resting upon the detailed study of speech material along the Melanesian chain, that in "The Polynesian Wanderings" I rested my conception of the two courses of migration, the Samoa stream and Viti stream, as denominated by their respective terminal points. It is possible that at a few points there may have been some currents leading from one current to the other; one such we shall have shortly to examine, but in the main the reexamination in this work of the earlier material with considerable additions tends to confirm my view as to this divarication of migration streams.

It should be made clear at the outset that our linguistic material from New Guinea is as yet scanty, but as other ethnical material is still less available, we are forced to set our greatest reliance upon the comparison of languages. As between the north coast and the south we have about the same number of stations of speech record; yet there are two factors of difference which are somewhat influential upon the results which we may derive. It is only the north coast series of tongues which comes to us in any larger bulk than mere word lists, since for the Bongu we have a rather considerable volume of vocabulary. The recording stations along the north coast are so spaced that we are able to obtain a somewhat comprehensive view from Geelvink Bay to and into the Bismarck Archipelago. The recording stations along the south coast are compactly grouped in a comparatively restricted area from the eastern shore of the Gulf of Papua to the Louisiades. This leaves us a great gap between the Gulf of Papua and the Arafura Sea and the southern tier of Malayan islands from which we have no speech records whatever. In the inconvenience of this fact there is nothing which argues against the passage of the Viti stream through Torres Strait; equally there is nothing confirmatory. A still more important difference between the speech records of the north coast and those of the south coast is that in the latter the Polynesian element is appreciably nearer to the type normal to that speech family. We are not in possession of sufficient material to admit of a comparison by quantity, but the superior quality of the southern material is immediately manifest.

We shall best begin our examination of migration courses relative to New Guinea as a wedge-conduit by looking at the particular area in which migration tracks following along the north shore might be led into reunion with such as may have followed the south shore out from Indonesia. We may regard the Sissano-Aróp lagoons as a somewhat critical point in the northern coasting voyages. At some point in this vicinity the seamanship of such voyaging would lead to a point of departure for those fleets which under the actuation of any of several causes might relinquish the mere skirting of land in sight and put out upon the northern sea. On some such theory of diversion we incline to account for a certain, though not complete, element of

the migration track which we can discern as extending from northern New Guinea on the one hand and from the southern Philippines on the other and identified by the inclusion of Proto-Polynesian speech material in the northern islands of the Bismarck Archipelago.

Of the remnant of the north New Guinea coasting stream the next point of diversion occurs at the Dampier-Vitiaz Straits. At this point it would be equally convenient for coasting fleets to continue southward on the coast of the semi-continental island or to set a short course for the channel islands, Long and Umboi (Rook). The fleets thus deflected from the New Guinea coast make a landfall at the nearest western point of Neu-Pommern, which in itself acts as a wedge-conduit for this migration stream. It is equally possible in sailing coastwise from this western point to be attracted northward along the shore or southward; in fact, we have quite positive evidence at the west point (Kilenge and Barriai) of no inconsiderable mixture of alien Polynesian linguistic accumulations. The evidence at present within reach seems to indicate the north shore of Neu-Pommern as the more traveled route, but on the south shore we have sufficient evidence (Liebliche-Inseln, Aweleng) that this route also was used. These divaricated migrations naturally conmingle at the eastern end of Neu-Pommern. It is to be held possible that the Trobriand Islands (Kiriwina, Murua, and Nada serving as datum points) may have been reached either by fleets passing southerly out of the Dampier-Vitiaz exit or from a secondary point of departure on the south coast of Neu-Pommern.

Our particular interest here engages with the possibility of another branch of the north coast migrants, those who have not been attracted to a deflection to Long and Umboi, but who may be considered as having continued along the New Guinea coast of Vitiaz Strait and as having thus been led toward the Louisiades.

All the available data bearing upon this branch of the north-coast migrants has been set down upon the accompanying charts (II to V). Here we see the score of vocables upon which alone it is possible to rest any inquiry into the use of the Vitiaz Strait as a fairway to south-eastern New Guinea. Scanty though the material is, it has seemed advisable to distinguish it upon the charts as Polynesian and Melanesian, the latter term being employed without precision and as signifying no more than that the speech is not Polynesian and not what is at present classed as Papuan. In each of these charts the small rectangle at the upper margin is employed merely as a symbol indicative that the vocable has been more or less definitely established as occurring at one or more of the points of linguistic record along the north-coast line of migration. The numerals in the legend attached to the various lines of tracing refer to the vocabulary items in earlier chapters. Having subdivided the material into Polynesian and Melanesian, the

still further division into specific and general clears the problem to its final simplicity, these terms being used to distinguish between those vocables traceable through the Vitiaz Strait which appear on one only of the shores of the great southeastern prolongation of New Guinea or upon both.

We find but six vocables accredited to Melanesian tongues which it is possible to trace through the Dampier-Vitiaz exit. When we direct our attention particularly upon the northern offshore islands (Kiriwina, Murua, Nada) we note that one vocable comes out of the straits as far as Kiriwina and is not found elsewhere in the region, that two are recorded in Kiriwina and Murua, and that one of these appears also upon the north shore of the promontory; that one (Chart III) is met with in Kiriwina, Murua, and Nada; that its identification extends to Dobu in the central offshore islands; that it is found at least once on the adjacent north shore of the promontory, and that it is found quite generally along the south shore from Motu to the Louisiades. In Charts II and III we observe two anomalies. In the former a vocable carrying a Vitiaz Strait element appears in the Motu-Hula-Sinaugoro region on the Gulf of Papua and is not identified at any point in the intermediate region until it recurs upon the north coast. It will be understood that the line which connects this area with the symbolic rectangle is not intended to express migration over sea and land, but is simply indicative. In Chart III we observe one vocable whose identity is established from the Vitiaz Strait; thence at practically every datum point on the north shore and in one of the southern offshore islands; it occurs at the most distant point of the Gulf of Papua coast after a gap in which in other cases we find much of our most valuable identification of Polynesian material.

We have but one clear case in which it appears that a Melanesian word is traceable on the north coast of New Guinea, down through the Vitiaz Strait and the south-extending coast to and around the southeastern tip of the great island. So far as relates to any speech element which seems Melanesian we have but this single instance which may lend itself to the idea that there was a speech movement from the north coast to South Cape and there a reversal of direction toward the Gulf of Papua.

We next examine in Charts IV and V the sixteen Polynesian vocables in which we can detect the suggestion of exit from the north coast through the Vitiaz Strait. On Chart IV there is but a single instance in which we find what should appear to be the characteristic picture of such migration, and here we have the material identified upon the north shore of the promontory and in Kiriwina and Murua of the offshore islands. In the other four cases the identification is restricted to the Gulf of Papua coast, is anomalous, and the first lines out of the symbolic rectangle are but indicative. On Chart V we find that

practically all the material is susceptible of the explanation of movement of continued coasting around the South Cape and reversal of direction into the gulf. This is the view held by Ray and Friederici. Upon this set of charts will be found all the data upon which they rest their judgment—just a score of vocables. To establish this view we should require a considerable showing of words which, after being well identified on the line of the north coast migration course, should be discovered on the shore nearest Vitiaz Strait toward the south and then should be definitely traced around South Cape and westward into the Gulf of Papua. This important problem of the reversal of current into the gulf will better be studied with the larger mass of New Guinea material next to be considered—that in which we have not been able to find any clear trace of this Dampier-Vitiaz element.

Before dismissing this particular group we must note that between Vitiaz Strait and our first discovery of these vocables in this area there intervenes the not inconsiderable gap of 3 degrees of latitude. The data record in this gap is scanty, yet in the few word-lists which are available there is a complete absence of these critical vocables.

When we take up the study of the speech of this critical New Guinea region for which we are unable to detect affiliation with the migration track through the Vitiaz Strait, we shall have to deal with a much larger number of vocables within Ray's list of 154 items. In the succeeding charts the traces of common speech are drawn for each item and the distinctive lines are consolidated by tens. We continue the division as between Melanesian and Polynesian. We make a further division to accord with a suggestion of speech provinces into which the area is divisible. It is much too early in the study to attach definite importance to these provinces; when our information becomes greater it is probable that they will prove to be no more than suggestions; but they are a beginning toward a solution and as such are offered as providing a present convenience in the examination of the material. These provinces are as follow: Gulf Coast, the eastern shore of the Gulf of Papua from Mekeo in the north, inclusive of Galoma-Sinaugoro at Keakalo Bay; South Cape, from Galoma to Tubetube in the Engineer Group, that portion of the southern coast between the Aura River and Dufaure Island being negligible because the languages at present reported along its extent fall into the classification of Papuan; East Coast, from Milne Bay northward to Collingwood Bay, and in this province there appears the suggestion of a subdivision at Cape Vogel which may associate the Boniki with the southern and the immediately adjacent Mukawa with the northern region; Louisiade region, the southeastern islands with record stations at Panaieti, Misima, and Tagula; Dentrecasteaux region, the eastern islands, with record stations at Dobu, Kiriwina, Murua, and Nada.

Gulf coast (Charts VI and VII).—In each language stock we have no difficulty in observing three groups of association. The northern group is based upon Mekeo, Roro, Uni, Pokau, and Doura. On the Melanesian chart we find two strongly characterized pairs, Uni-Roro and Doura-Pokau, and these pairs are linked by the frequency of the Pokau-Roro association, a line of such strength as appears but twice elsewhere on this chart. On the Polynesian chart we find the same pairs and the same linking of pairs, but with a marked reduction in the weight of the lines. Here we encounter a diagonal linking of the pairs, Uni-Pokau, which does not show itself on the Melanesian chart. From Roro both charts exhibit lines of affiliation, exclusive of Pokau, which extend to Kabadi, Motu, and the Hula-Keapara pair individually. These lines are by no means heavy, and the only difference between the Melanesian and the Polynesian charts is that the lines Roro-Kabadi and Roro-Motu are one unit heavier in the former.

The next group along this coast comprises Pokau, Kabadi, and Motu, with scanty interrelations of the inner Doura with Kabadi and Motu. Each chart exhibits the same relative strength of the lines Pokau-Kabadi and Kabadi-Motu, so that we may regard the three sites as under the same sweep of speech movement. The line Pokau-Motu is relatively stronger in the Polynesian chart. Between Pokau and Hula-Keapara exclusive of Motu we find traces of interrelation, but so scanty as not to call for particular remark. The third group associates Motu with the particularly strong association of Hula-Keapara-Galoma and brings it at that southern region into contact with the interrelation of the inland Sinaugoro and Rubi with the same coastal communities. The Melanesian chart shows particularly strong association of Hula with Keapara and but a single unit lower between Keapara and Galoma; the line Galoma-Rubi-Sinaugoro is practically of the same weight as the line Hula-Motu. The Polynesian chart exhibits a line of the same weight from Motu by way of Hula and Keapara to Galoma, a manifestation of a more even distribution of the influence which has been at work; the inner association with Rubi and Sinaugoro is distinctly less prominent. The final note upon the two charts is that the eastward extension of these stems into other provinces is greater in the Polynesian material than in the Melanesian, and that implies far greater extension relatively to the varying amounts of material.

South Cape (Charts VIII and IX).—The examination of the two language stocks in the matter of the draft of material from the Gulf Coast province makes clear a difference, even though the significance thereof must for the present elude our study. The Melanesian chart presents the lines of this draft for each of the terminal points. We find Suau the principal terminus, Mugula and Sariba at the ends of lines of equal weight, Tubetube somewhat inferior, while the material

which is drawn through this province without coming to shore is represented as of the same weight as the Mugula and Sariba lines. The Polynesian chart, however, while keeping Suau as of the same first importance and Mugula in second place, sets Sariba and Tubetube on the same scale of unimportance, and, as in the Melanesian stock, the draft from the Gulf Coast which passes without a check beyond the South Cape is of the same weight as the Mugula line. Suau on the Melanesian chart is of the first importance in speech affinities. Its strongest relation is with Sariba; its next is with Mugula, but by a considerable interval; with Tavara, its nearest neighbor along the coast in the next northern province, as with Tubetube, its direct affiliation is at the minimum. The affiliation of Mugula is most marked with Suau; it shows a trace with Sariba and Tubetube. Sariba, most strongly affiliated with Suau, is very nearly as closely in touch with Tubetube; there is a minimum trace in the direction of Tavara. Tubetube may be taken as the outpost of the province. Its strong relation with Sariba has been noted. It is important to note its position as a distributing point of affiliations extending beyond this province very strongly marked into the Dentrecasteaux province and almost equally into the Louisiades, yet not at all into the East Coast province. Sariba extends into the Dentrecasteaux and the Louisiades in the same ratio as does Tubetube, but only to the extent of half the number of vocables. Suau shows but a trace of extension directly to the Louisiades and little more to Dentrecasteaux and the east coast. Mukawa exhibits exterior relations in a single instance of affiliation on the east coast. The Polynesian chart of this region shows somewhat marked difference. Suau remains the principal point. Its richest association is still with Sariba; it is joined to Mugula and Tavara by lines of equal weight, and that but little short of the curve of Suau-Sariba; with Tubetube direct it exhibits but a trace of association. Sariba offers much the same picture as on the Melanesian chart. Its relations with Suau and Tubetube are in the same ratio; its relation with Tavara is less. Tubetube on each chart shows no affiliation with the east coast. It affiliates to an equal extent with Dentrecasteaux and the Louisiades, and this figure is the same as that of its affiliation with Sariba. Sariba shows a trace of affiliation with the east coast and with the Louisiades, but a trifle more with the Dentrecasteaux. Suau shows with the Dentrecasteaux an affiliation quite as strong as with Sariba in its own province, in the next degree with the east coast, and only a trace with the Louisiades. Mukawa shows a trace of affiliation with the Louisiades.

East Coast (Charts X and XI).—This province and that of the South Cape should be critical of any movement of migration by coast-wise voyaging which should bring together streams following the north and the south coasts, respectively, of New Guinea. The proof

of such a folk movement should most distinctly appear in the region Awalama-Tavara-Suau, with extension to Sariba and in a less degree to Tubetube. We have already seen in the Melanesian chart of the South Cape how slight is the affiliation between Suau and Sariba with Tavara. In the corresponding chart of the east coast we discover at once that Tavara is the terminus of a very consistent series of affiliation which extends northward with much uniformity as far as Wedau and in only a slightly less strong phase into the northern subdivision of the province. Between Tavara and Awalama essential unity is discernible in a little less than half the vocables available for our study. This value undergoes accretion as we run over the languages of the north shore. The group Awalama-Taupota-Wedau shows such unity in an even half of the vocabulary data; in the hamlets of the shore of Goodenough Bay, Wedau and Galavi establish a two-thirds unity which extends as far as Boniki at the tip of Cape Vogel, the possible point of subdivision of this province. From Tavara there are vestiges of direct affiliation with Taupota and Wedau which has passed outside of Awalama. In amount this is a mere trace, and it does not extend into the Goodenough Bay country. The Goodenough Bay group is established by Wedau-Galavi-Boniki, but we find a trace of affiliation as between Wedau and Mukawa at the beginning of the northern group, excluding Boniki, and on the Galavi-Mukawa line we have considerable confirmatory data. In the northern group we find a somewhat strongly drawn line of affiliation between Boniki and Mukawa; thence with about half the weight it is prolonged from Mukawa to Kubiri, and finally with a reduction of one unit from Kubiri to Kiviri. In the Collingwood Bay region we find a fairly well-defined interrelation between Kwagila and Kubiri. Of the four languages which dominate this bay we find two clearly defined pairs, Raqa and Oiun as one, the inner pair, Kubiri and Kiviri pairing around the other pair. The exterior relations of this province reach in but one direction—to Dobu, the nearest record station of the Dentrecasteaux province, a trace from Collingwood Bay, a trifle more from Goodenough Bay, and somewhat more than one-tenth of the available data from the Wedau-Taupota-Awalama-Tavara filiation. The Polynesian chart shows some interesting points of diversity in addition to a marked reduction of the common elements. From Suau as representing the South Cape province we find the filiation with Tavara very slight. Between Tavara and Awalama the affiliation is no more than half of that seen in the Melanesian language group. From Awalama by Taupota to Wedau the amount of affiliation is denoted by the same Tavara-Awalama line instead of increasing, as is the case upon the Melanesian chart. Above Wedau the affiliation is less than between Tavara and Awalama, instead of greater, as in the Melanesian chart; and this curve continues out of Goodenough Bay and around

Cape Vogel without suggesting the subdivision of the province which seems so plainly indicated in our Melanesian material. In Collingwood Bay there is but a trace of affiliation between Kwagila and Kubiri, and the Raqa-Oiun and Kubiri-Kiviri pairs are scarcely distinguishable. The exterior relations are the same in amount and destination as on the Melanesian chart, a trace from Collingwood Bay, a trifle more from Goodenough Bay, and a more strongly marked line from the Awalama region. While the figures establishing these lines are the same on the two charts, the fact that the Polynesian material is smaller in sum gives these three notes of affiliation a higher percentage value in the Polynesian group.

Louisiades region (Charts XII and XIII).—The provisional establishment of this province has probably been somewhat overmuch governed by the geography of the charts. It has seemed simpler to include Tubetube with the South Cape by reason of proximity, yet when the languages are better known it is quite likely that Tubetube will fall more satisfactorily with the Louisiades. Our Melanesian chart exhibits the close relation of Tubetube and Panaieti, amounting to about one-fifth of the recorded data. Panaieti affiliates with Misima to the extent of two-fifths. The affiliation of Misima and Tagula amounts to about one-seventh. The exterior relations of the province are interesting. Panaieti and Misima show a trace of affiliation with Suau and Sariba independently, and Tagula to the same slight degree is associable with Sariba and Tubetube. Misima exhibits a higher degree of affiliation with the east coast province at Awalama. In the Dentrecasteaux region Panaieti and Misima show a trace of affiliation with Dobu; Panaieti has a somewhat higher relation with Kiriwina and Murua and a trace with Nada; Misima shows but a trace of association with Kiriwina, Murua, and Nada. The Polynesian chart offers a markedly dissimilar picture; with the exception of the interrelations of Tubetube-Panaieti and Panaieti-Misima of equal weight, the series is but a matter of traces too slight to lend weight to any suggestion of explanation.

Dentrecasteaux region (Charts XIV and XV).—Both our charts at the first glance suggest arachnid industry, but when we give attention to the relative importance of the several lines we obtain a clear picture of the speech relations within the province and the extension of such relations to and from other provinces. In the Melanesian chart we note at the outset a strongly featured community of the northern islands Kiriwina, Murua, and Nada amounting to two-fifths of the material; associable with this community we observe the interrelation of Kiriwina and Dobu to one-third of this degree, attended by traces of interrelation of Dobu with Murua and Nada. Despite its distance in the Louisiades, Panaieti, as already mentioned, is appreciably in touch with at least Kiriwina and Murua of these northern islands.

Dobu again is related with Suau at the first unit of the scale which we have been employing, with Sariba at the second, with Tubetube at the third unit. When, now, we bring into comparison the Polynesian chart, we find the picture much simpler and the dominant lines reduced greatly in weight. We have the same even curve of Kiriwina-Murua-Nada affiliation, but all the other lines are of the first unit and represent mere traces, except the Dobu-Tubetube affiliation of equal weight with that which extends through the northern group.

This graphic delineation of the affiliations of Polynesia and Melanesian languages at this extreme southeastern tip of New Guinea suggests any number of interesting problems of small scope which in time will undoubtedly repay investigation. In relation to the present work we shall rest satisfied with the discussion of the major problem of the direction of the movement of speech around this southeastern promontory and of its connection with the establishment of the larger sweep of Polynesian migration into the Pacific.

We have in the first place to set down a memorandum of the character of that element in these charts which we, following our few predecessors, find it convenient to designate as Melanesian. The most which we may venture to posit of the vocables in this group is that they occur in the keeping of peoples whom we for the present elect to denominate Melanesian and that they are not identified in any language of Polynesia. There exists a certain possibility that some of these vocables may belong to the Polynesian language as it was constituted at the period of the sojourn of Polynesian migrants in the place where these words are now found; they may be survivors. That such a chance of remote survival conditions the comparison of these widely distributed languages is shown in some of our earlier studies. In the Visayan of the southern Philippines we find the word *alimango* as the name of a crab; we find the same word in Samoa in the same sense; yet if the word had dropped out of Samoan we should have no means of knowing that the Visayan word is Polynesian and it must have gone on record as purely Indonesian. Therefore it is clear that we are not warranted in the statement that this element is wholly non-Polynesian merely because it is not now identifiable in the Polynesian of the present and of which the dictionaries are notably incomplete. According, upon this series of charts we shall distinguish between Polynesian and Melanesian only those traces of language movement which markedly differ, and where the traces follow the same course we shall feel justified in refraining from attaching too much importance to the different designation of the two elements.

In the discussion of language movement as an index of folk movement around this critical New Guinea point, earlier investigators have taken the position more or less distinctly that the movement was from the north down the east coast and thence westerly into the Gulf

of Papua. In "The Polynesian Wanderings," working over the material afresh and with a broader scope, I felt justified in proposing a general eastward migration stream from southern Indonesia and along the south coast of New Guinea through Torres Strait. We now proceed to the general examination of this critical region relative to the two migration streams on either side of New Guinea.

It has been pointed out that just at the spot where we should expect to find the most complete evidence of reversal of language movement, at the extreme tip of New Guinea, we find the curves of affiliation at their lowest degree. North of that point on the east coast, west thereof on the south coast, we find considerable areas in each of which affiliation is conspicuous, yet we lack the evidence of connection between these diverse areas. Furthermore, assuming the rounding of the cape, there is nothing on these charts which might establish such rounding as directed westward from the east coast rather than northward from the south coast; there is quite as much argument on one side as on the other. Each extremity of this critical area is disjunct from the migration stream with which it is sought to connect it. But there is observable here a difference in the conditions of the problem. The Collingwood Bay region of affiliation is separated from the Vitiaz Strait by some 3 degrees of latitude; the Motu region is parted from the nearest point of Indonesia in which we have record of Polynesian language material by all of 10 degrees of longitude. Yet here a difference exists. In the 3 degrees between Vitiaz Strait and the Kiviri speech the land has been visited; at several points the languages have been collected at least to the same extent as in the region for which these lines have been traced, and at every such datum point the Polynesian element is wanting. In the greater distance between the Arafura Sea and Motu the land has been almost unvisited; there is a long stretch of coast for which we have no authority to postulate that it does not contain Polynesian survivals. Thus far we have done no more than advance the argument that it is quite as possible for the folk movement to have progressed easterly around the southeastern cape as westerly, and we must add at this point our knowledge that all Polynesian migration is instinct with motion away from the west.

Now consider the quality of the affiliation of these Polynesian survivals. On the whole of the east coast the quality is low; it calls for no little art to discover in common speech the persistence of a Polynesian stem; and of the survivals along the north coast of New Guinea, with which it is sought to link this movement, the quality is equally low. On the other hand, the quality reaches its highest to the west. In Motu and in Sinaugoro and Galoma exist many words which would pass muster for Samoan current to-day. It seems impossible to consider a speech affiliation of low quality arising from a contaminated source as capable of recovering its purity the farther it travels from

its putative source. If this objection inheres in the argument for derivation from the north, New Guinea migration and reversal of current into the Gulf of Papua, regard the hypothesis of a Torres Strait migration eastward. In this conception of the case Motu and its neighboring coast lies as our nearest datum point to an uncontaminated source in proximate southern Indonesia; the degradation in quality is progressive eastward in the line of traverse as the wandering Polynesians tarried with an alien and inferior folk and left their impress upon minds poorly equipped to assume the superior culture. On this assumption of the independent migration stream eastward through Torres Strait we find our difficulties reduced to a minimum; we find confirmation in the line of affiliation wherealong quality is maintained—a line clearly marked from the Gulf Coast province to Suau, to Sariba, to Tubetube, to Panaieti with almost unimpaired weight. On this assumption it is not particularly necessary to explain away the progressive degradation of Polynesian material on the east coast; it may even have come to pass aside from direct Polynesian contact, but at second hand through Melanesian interchanges; and it is immaterial if we credit the affiliations of Kiriwina-Murua-Nada to drift from the nearest coast of Neu-Pommern.

We are now in a better situation to consider the general probabilities of migration through Melanesia as set forth to view on Chart XVI. When we examine the possibilities of folk movement in this region we encounter three interlacing hypotheses:

A.

Assuming the migration eastward of the Proto-Polynesians out of Indonesia under a sufficient stress of expulsion (for in the nature of the case a draft of attraction to happier lands in the Pacific could not exist), if the migrants touched at uninhabited islands we should expect to find the laggards of the migration scattered along the course and speaking a pure, albeit archaic, Polynesian. Such we find in a clearly drawn and interesting track upon the chart. The region nearest to Indonesia in which we first identify this migration track is north of the equator (not included in this chart), at Kapingamarangi and Nukuoro. Other record-points in a generally southeasterly course are Tauu, Nuguria, Nukumanu, Sikaiana, the Reef Islands, Ticopia, and Anuda, whence the course is clear to Rotumā, Futuna, Uvea, and Samoa. Attention has already been directed upon the probability of a deflection of some of this migration through the southern Solomons to a clear record-point at Moiki-Moava. In the two channels between Malanta and Guadalcanar and Malanta and San Cristoval, respectively, we find more or less high degrees of intermingling with strictly Melanesian material, and the same is true of the Reef Islands, Ticopia, and Anuda; for in these cases we have other reason to predicate the

existence of an autochthonous population at the period of Polynesian occupancy. At the arrival of this and other migrations in Nuclear Polynesia a very general diffusion took place; the trace upon the chart denotes in its simplest form the fact of such diffusion; it is not intended to imply the particular preference of Samoa over any other point of such distribution.

B.

Assuming the presence at the time of Proto-Polynesian migration of races alien to this ethnic stock at certain points in Melanesia, we should look for various forms and various degrees of contamination of persisting Polynesian linguistic material along the migration track. In earlier works I have discussed at length the character of such migration. In this connection I renew attention upon one of the factors which seems above all others to dominate the problem. A social unit migrating by land is able to victual itself from the country which it traverses, its route is distinctly governed by the available food supply, it avoids deserts and other regions in which game and grass are scanty. The discovery that the country just pioneered will not support the migration is promptly followed by retracing the track to the last region in which victual is abundant; a new route is sought by scouts where the food-supply promises to suffice. So much for the sweep of Attila across Asia and Europe; so much for the conquest of our western plains as far as the mountain backbone of the continent and beyond to the founding of our great empire on the Pacific; so much for the great trek of the Boers out from Cape Colony to a greater Africa of freedom beyond. Migration by land must follow the line of the most abundant victual.

But migration by sea is far other. The sea is ploughed by many keels, but no crop grows for the feeding of the sailor. His last article of food and water must be carried between the port he has left and the haven of his desire. When food fails the sailor the sailor fails the ship; a few days the ship of starvation drifts untillered, the sport of wind and wave, awaiting the friendly gale which shall give it sea burial, and there an end. In these very waters we have the record of voyaging to the edge of failure of victual—Bligh in his crowded boat after the mutiny of the *Bounty*, the *Pandora's* boats with Bligh's mutineers, both winning through to the East Indies in starvation. We can only imagine what mute tragedies of this sea must have accompanied the ignorant navigation of the Polynesian migration, all passed from human knowledge because none survived, even as none survived to tell the bitter voyage into the unknown of those French sailors of La Pérouse who built a boat on Vanikoro out of the wreck of their frigate and sailed away to starve. When our whalemen scoured the Pacific they provisioned for three years and they could always make

some port long before they began to run short; they had the cargo space; their food was portable. The Polynesians had most inferior cargo space in their canoes and their food lacked portability, for it was almost solely fresh vegetables. Upon this point of victual we find preserved a migration record. The voyage which brought the Maori to New Zealand was protracted beyond the food-supply possible to some of the canoes, and tradition has preserved for our information the knowledge that it was at the last necessary to have recourse to the crew as food, a double economy in that each paddler who kept his mates alive became also one less mouth to feed. I have been able to examine a few of the great double canoes of Polynesia, probably to be taken as fair representatives of the vessels of the great migrations. I judge that the hold and deck space on the canoes which I have surveyed was capable of carrying of the bulky vegetable supply no more than sufficient victual and water than would suffice to maintain the people of such a vessel for little over a week—ten days at the outside on short commons. This means that the units of the fleets of such migrations, not considered as under any admiralty of control of their movement, but each for himself, must at brief intervals come to land for purposes of revictualment.

Such landing-points fall likewise into the possibility of three classes. The simplest comprises those lands without habitants, such as we believe to have been the case in the islands of the Polynesian Verge. Here the migrants might be expected to find a day-by-day support, but to accumulate provision for a further voyage would call for such sojourn as would afford time for agricultural operations. Each such island would prove attractive to some of the fleet; they would be content to enjoy their new-found peace. Thus we should expect to find such islands of undiluted Polynesian races as we do find dotted along a thread from the Carolines to Nuclear Polynesia. Each such island would form a new point of departure when population approached the limit of productivity or when feud arose within the settlement of this proud and war-enjoying race. Thus each would be both settlement and crop colony. That such has been the case, even in default of tradition in Melanesia, is permissible inference from what we know to have come to pass in Samoa and many eastern island communities, even to the outermost limit of the island Pacific.

In the second class we have to consider the probability of the nature of the reception of Polynesians by existing populations. That it could have been peaceable is impossible to consider, for peace even to the world's highest peoples is an aspiration rather than a fact. We picture the coming of Polynesians to Melanesian communities in the light of a raid of sea marauders. Food is a necessity, fighting a joy, resistance meets onslaught. It matters not what the result of these unchronicled combats in a distant sea, the ethnic result is practically

the same whichever may win. These are battles to extinction of the fighting men; the women go with the victory. If we may judge the past from the present, the Polynesian raider is of the better courage; he knows better his trade of fighting; the Melanesian advantage lies in numbers. If the Polynesian wins he takes the Melanesian women to his community; if the Melanesian wins the Polynesian women of the fleet remain; in either case the next generation presents a mixed blood and a mixed speech and it matters little in which order the mixture is produced. In case of such an onfall where the result has been a Melanesian victory, the cross of alien blood tends progressively to wane under the dilution of this mixture by successive matings with pure Melanesian strains. In case of Polynesian victory the victors may sail away and leave the cross behind to undergo the same absorption, or the progeny of such mixture may be carried along with the Polynesian sires to undergo gradual absorption in that strain. In some cases we may see the probability of a settlement of victorious Polynesians upon land won from Melanesians, in which case the cross-mixture would tend to fairly equal replenishment from each source, and we should discover a race of hybrids with contamination of custom and speech; and this is just what we do find at several points in the Melanesian chain.

In the third class of such settlement along the route of migration we find an operative factor which tends to produce the permanent occupation. This is the yearly recurrence of the hurricane season, the months between December and March, when the trade wind is deranged. In this period of almost incessant rains, and rain is very uncomfortable to the bare islander, the wind either fails entirely in dull days of dreary calm or else reaches such violence of gale that only the stoutest ships may live afloat, and even ashore solidly constructed buildings plane through the air. When this season meets the canoe voyager a sojourn ashore is made necessary, no matter where he be. This factor, then, conditions the other reasons for such a halt.

C.

The third of these possibilities is that Melanesian communities which have come into possession at their home site of a given amount of Polynesian material, somatic or cultural or linguistic, may themselves migrate to communities thitherto untouched by the general Polynesian movement. Here we encounter strong probability of such Melanesian migration, but we lack definite detail. At the time when the islands of the western Pacific were densely populated there was lack of interest in preserving the record of their tradition history. Now, when interest has been attracted to the importance of this study, the islands have been depopulated by the infamy of the labor trade and the memory of the past has vanished. It is possible to feel the existence of at

least three subdivisions of Melanesia, and underlying the present Melanesian in certain of the larger islands a persistence of an earlier and yet more primitive folk. But we can not yet prove the limits of these subdivisions; perhaps it will be found too late; and though it is probable that in more than one region we are dealing with Polynesian material mutilated by second-hand transmission, we may not differentiate it from direct accumulations along the migration sweep.

Upon this chart I continue the division of the Samoa stream along the northern New Guinea coast, the Bismarck Archipelago (and now I attach greater importance to the establishment of the line eastward of Neu-Mecklenburg on the strength of the Lihir record-point), thence through the Solomon Islands and eastward to Nuclear Polynesia. Set off from this I draw the Viti stream out through Torres Strait to the New Hebrides and thence by the more southerly course to Nuclear Polynesia.

When we take up the investigation of the Polynesian material persisting in the varied languages of the Malay Archipelago as shown on Chart XVII, we feel at once that the problems are somewhat of a different order than those which are drawn out from the Melanesian nexus. There we have to deal with a folk movement under an impulse outward from the rear, led onward along courses whose direction is made clear by the most casual study of the charts. Here we find ourselves confronted with a notably different set of factors.

In respect of the mere fact of the persistence of a certain scanty yet abundantly recognizable element in Indonesian languages which we must recognize as a borrowing from Polynesian, we find no great difficulty. We are concerned with roughly about 250 vocables; very few indeed are represented at all generally in Indonesian languages. Thus we conclude that the borrowing was not at a single center and thence carried by the onward movement of the peoples who first assumed this material. Rather do we find that this assumption has taken place in various proportion at several or many spots where Indonesians came into somewhat enduring contact with persons who spoke some Polynesian tongue. Furthermore, from the essential concord of the borrowed material with itself and with the present Polynesian of the Pacific we hold the opinion that at the time of such contact the Polynesian spoken in Indonesia was to all intents and purposes a single speech.

At this point we require a brief statement of the history of this period of contact of the two peoples. Our postulate of the presence of Proto-Polynesians in the Indonesian area deduces from the persistence of this loan material. Against the possibility that Polynesian material has been communicated to Indonesia by westward drift we set two determinant facts. One is the uniformity of Polynesian tradition-history that the original home of the race was in the west,

which engages with the climatic constants of Melanesia to support the theory of eastward migration. The other fact lies in Indonesia itself. If the theory of drift material were otherwise tenable we should expect to find the greater mass of such at the eastern border of the Malay Archipelago, say from the Philippines down to Aru and Timor Laut, steadily recessive in a westerly direction, and reaching its minimum in the Kawi of Java and the Malay of Sumatra; which we find to be not in the least the case. Polynesian loan material is to the full as abundant in the west as in the east.

Recorded and datable history of India and of Java presents to us considerable detail of the onward sweep of peoples now Indonesian a little earlier than the Christian era. We are unable to find a sure recognition of a home of Polynesians earlier than the Malay Archipelago, but of the Indonesians we have a clear record of their passage through India and of their entrance upon the islands of their present abode by way of the Malakka Peninsula and Sumatra. We know this horde to have been superior to the Proto-Polynesians in a vital point of culture; they were already smiths. The history of mankind shows conclusively that the race with the knife possesses the earth; the man with the club and the dornick shaped to his hand is beaten; he dies or he scuttles away. These Malayans had the kris; under its alien designation of bolo it has been the weapon of serious resistance in the Philippines to a culture whose weapon is as much superior to the kris as the knife is superior to the stone hatchet. Before the approach of the knife-armed Malayans the Proto-Polynesian resistance could not endure; the club fighters died or fled. At each point of former Proto-Polynesian occupancy of Indonesia we assume the defeat of the armed resistance, and the whole story of primitive man the world around warrants this assumption. We then have at that point a debellated community culturally inferior; the active men killed in the decisive battle of their tiny world, the non-combatants, women, children, and the aged awaiting the event. If sufficient of the active warriors remain alive, if their force still suffices to admit of certain freedom of action of their part, we may conceive of a voyage of escape, the conquerors quite satisfied with such an easy outcome, the cruising for new homes to which the enemy has not yet penetrated. Such must have been the origin of the great migrations eastward whose course we have been tracking. If the defeat of the original inhabitants has been sufficient to prevent the possibility of such escape we find the vanquished reduced to slavery by the victor, a condition of life which does not begin to become intolerable until a much higher advance in general culture. Experience shows abundantly how readily a victor people tends to assume some element of the domestic speech of its slaves. This is prominent in our picture of Indonesia during its transition period two millenniums ago.

It is difficult to excavate below the present culture of the Malayan Archipelago with much hope of finding out what may have been the extent of Proto-Polynesian occupation of the islands before the coming of the invader. A careful examination of the speech and of the custom life of a few scattered peoples within this area, such as the Aeta of the Philippines, the Punam of Borneo, the Barëe-Toradja of Celebes, leads in the direction of the opinion that during the period of undisturbed Proto-Polynesian race occupation there were areas of peoples yet more primitive. But it seems fair to assume that the Proto-Polynesian occupation of Indonesia was practically uniform and general. Accordingly the lines on Chart XVII differ in quality from those which we have drawn on the Melanesian chart. Here we have a consolidation of all the lines connecting the loca of affiliation recorded in the chapter next preceding. Yet they do not present the character of lines of folk movement as do those in Melanesia; we do not sense upon them the feeling of destination. The motion in this region, the lines of conquest and occupation of Indonesia, neither of these pertains to its Proto-Polynesian element; it is the proper function of the student of the Malayan peoples. Until the moment of escape from a lost field of battle the Polynesian here is sessile; mobility is the character of the Malayan. Yet certain of the exterior lines of affiliation, while they do not impress us as so instinct with motion as do the Melanesian traces, do suggest lines which might be traveled. At the extreme west we find the ultimate outposts of the Polynesian race, not great in extent, yet sufficing to establish a line at least of Indonesian migration, one determined by Silong on the west of the Malakka Peninsula, the other better determined by Nicobar and the significant status of the Mentawei Islands west of Sumatra. From Sumatra we have three lines of affiliation which are very strongly marked. One leads through Borneo in the direction of the Philippines, the other into Java and the southern chain of islands, the third toward Madagascar. Almost all our affiliations of the Malagasy, of whatever linguistic stock, point with great uniformity to Sumatra-Java and very little to other parts of the archipelago. We regard this migration to Madagascar as comparatively late, dating from a period when the people of Sumatra-Java had assumed whatever Polynesian element characterizes their respective languages. We are not in any sort justified in the theory, which was held as recently as the time of De Quatrefages, of Polynesian occupation of that remote island of the African continental mass.

From Java we trace eastward two lines. One may smoothly be drawn along the scarcely interrupted chain of southern islands as far as Timor Laut and Aru, where it approximates that Viti stream of migration which the study of the Melanesian material has led me to propose and earnestly to support. From Madura we lay out a trace

which appears to fork at the south of Celebes, one traversing that interesting island northward into the Philippines, the other established by Salayer (a point of peculiar Samoan interest) and Bouton and thence forking into the Moluccas. A northerly fork is established by Sula on the way to Gilolo; a southerly fork engages with Ceram and Buru, islands from which we derive much valuable material. From Ceram we derive lines in the northerly direction by way of Mysol and Waigiou which bring us to the westerly tip of New Guinea; here engage lines from Gilolo and from the Philippines, and here these converging lines approximate that course of Polynesian migration along the north shore of New Guinea upon which we are all in agreement.

Here for the present we leave these studies of the great Polynesian migration. Some little has been accomplished. We have freed the problem from the error and the misleading of the theory of a Malayo-Polynesian speech family and a Malayo-Polynesian race. We have established the existence of two somewhat widely distinct migrations of Polynesians into the Pacific with an interval of centuries. For the earlier of these migrations we have traced three courses through Melanesia and into the present Polynesia. The situation of Polynesia is reasonably clear in its main outlines. Owing to the depopulation of Melanesia many problems must remain insoluble because of the impossibility of acquiring data. In Indonesia much work can be done; it is hoped that it will engage the renewed effort of those scholars who have devoted their lives to the study of the culture and of the speech of the mixture of races whose homes are in the Malay Archipelago.

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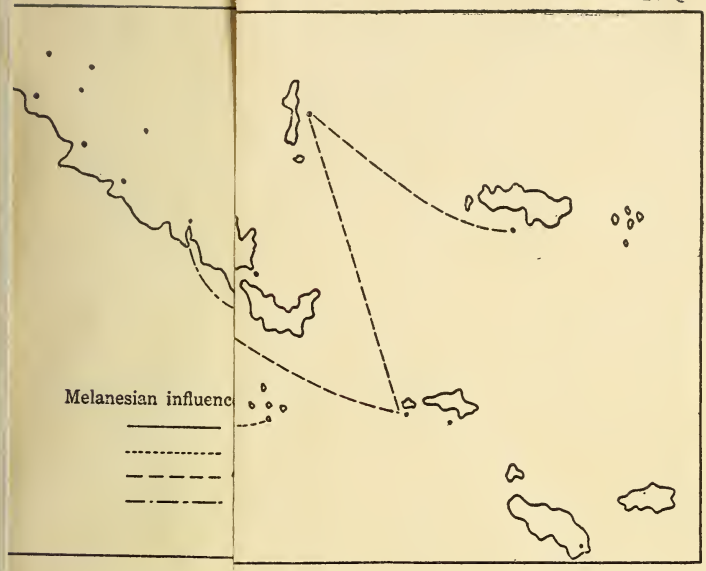
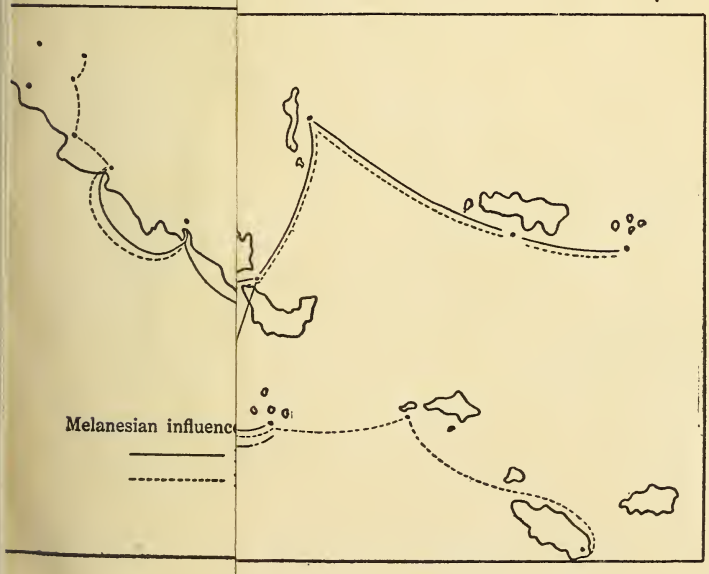
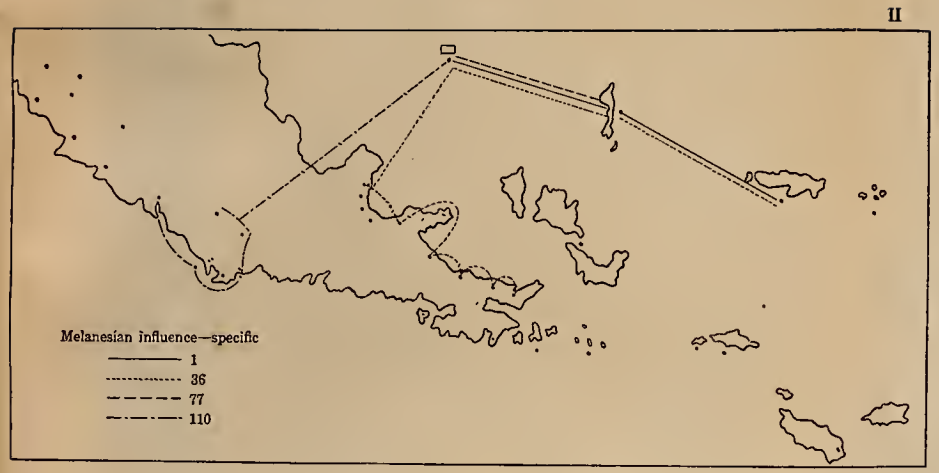
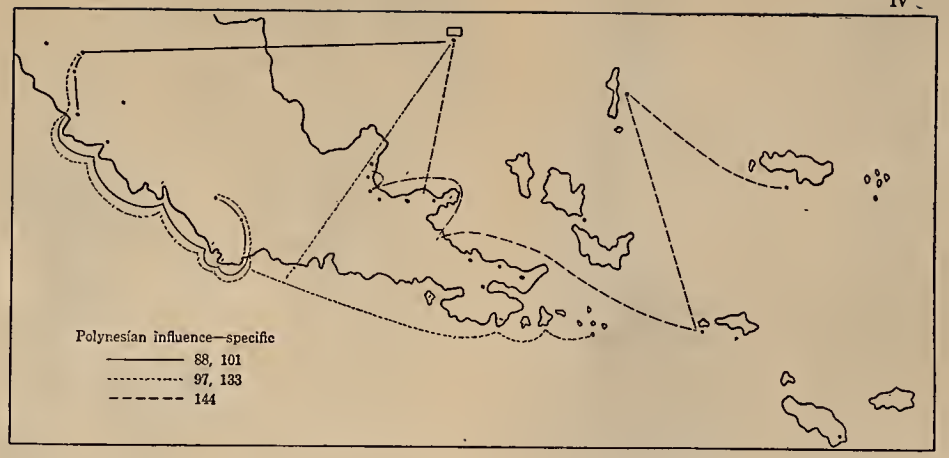
IV

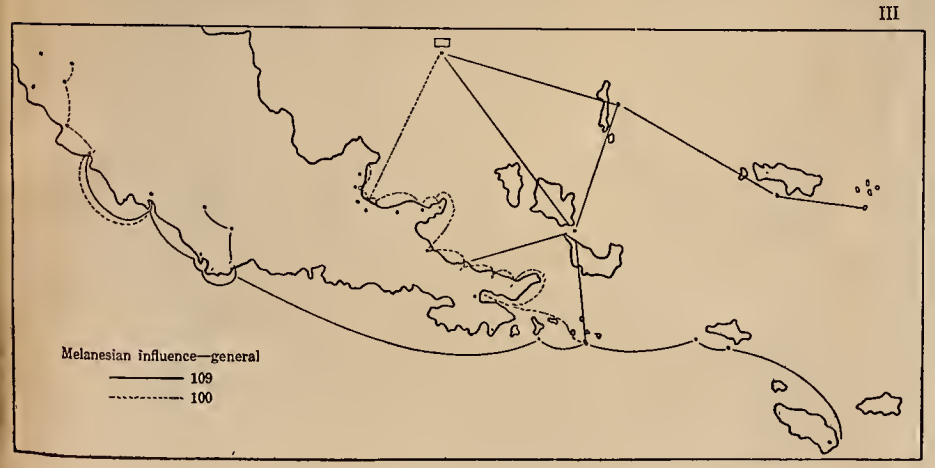


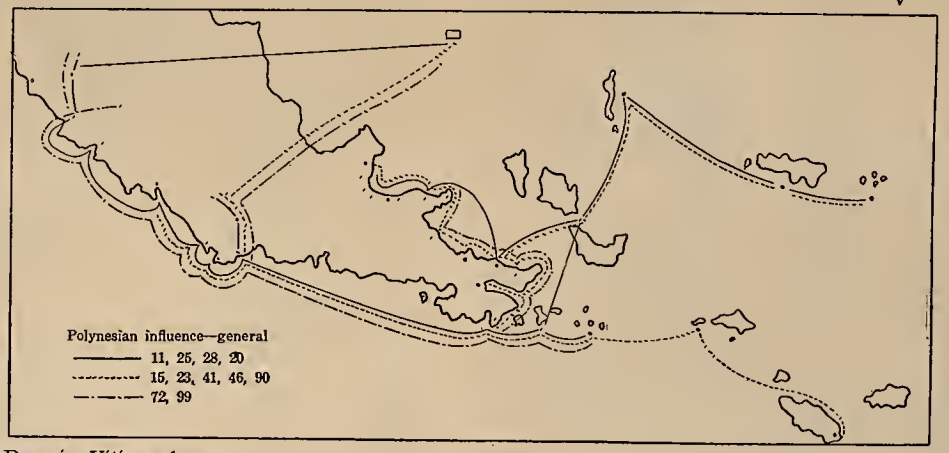
V



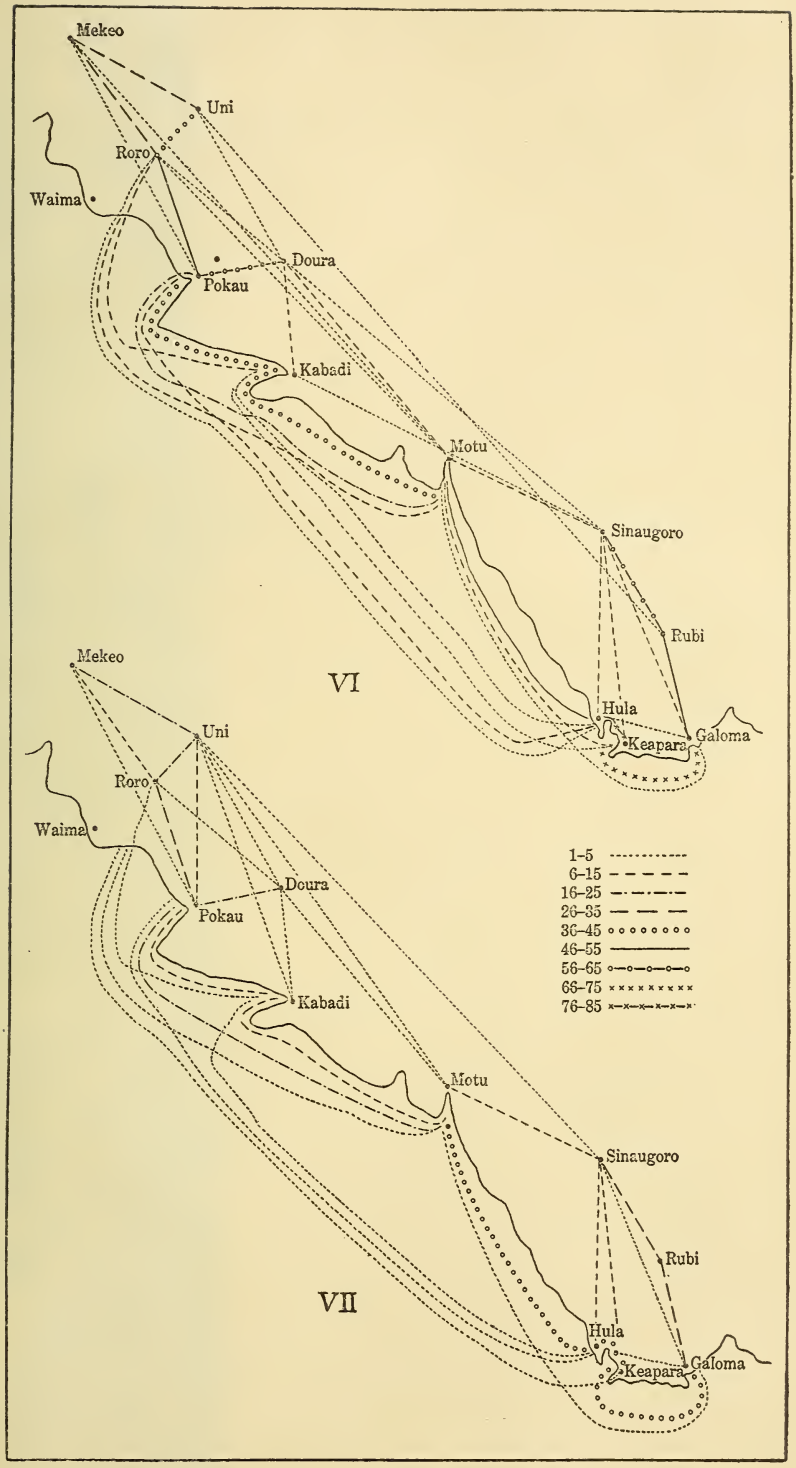






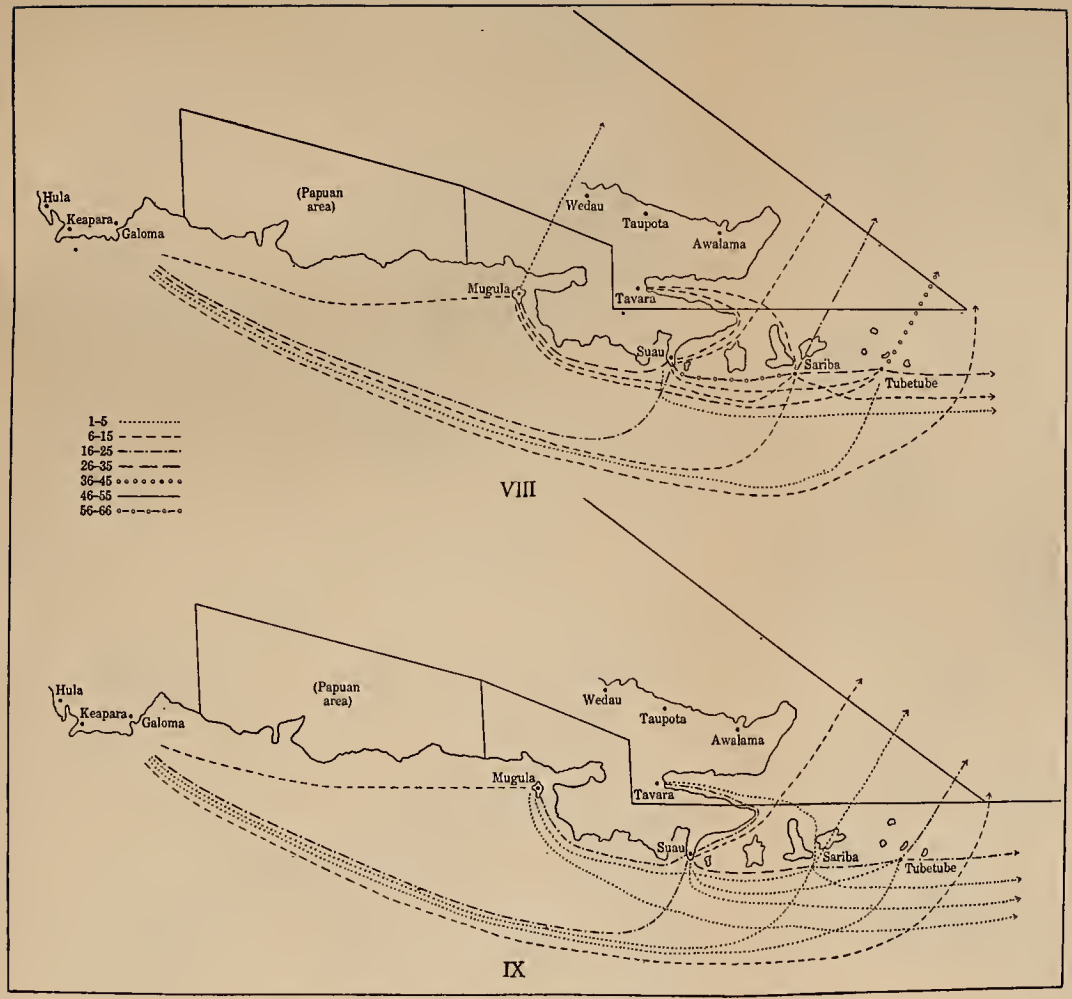


CHARTS II–V. PAPUA: Dampier-Vitiaz sphere.

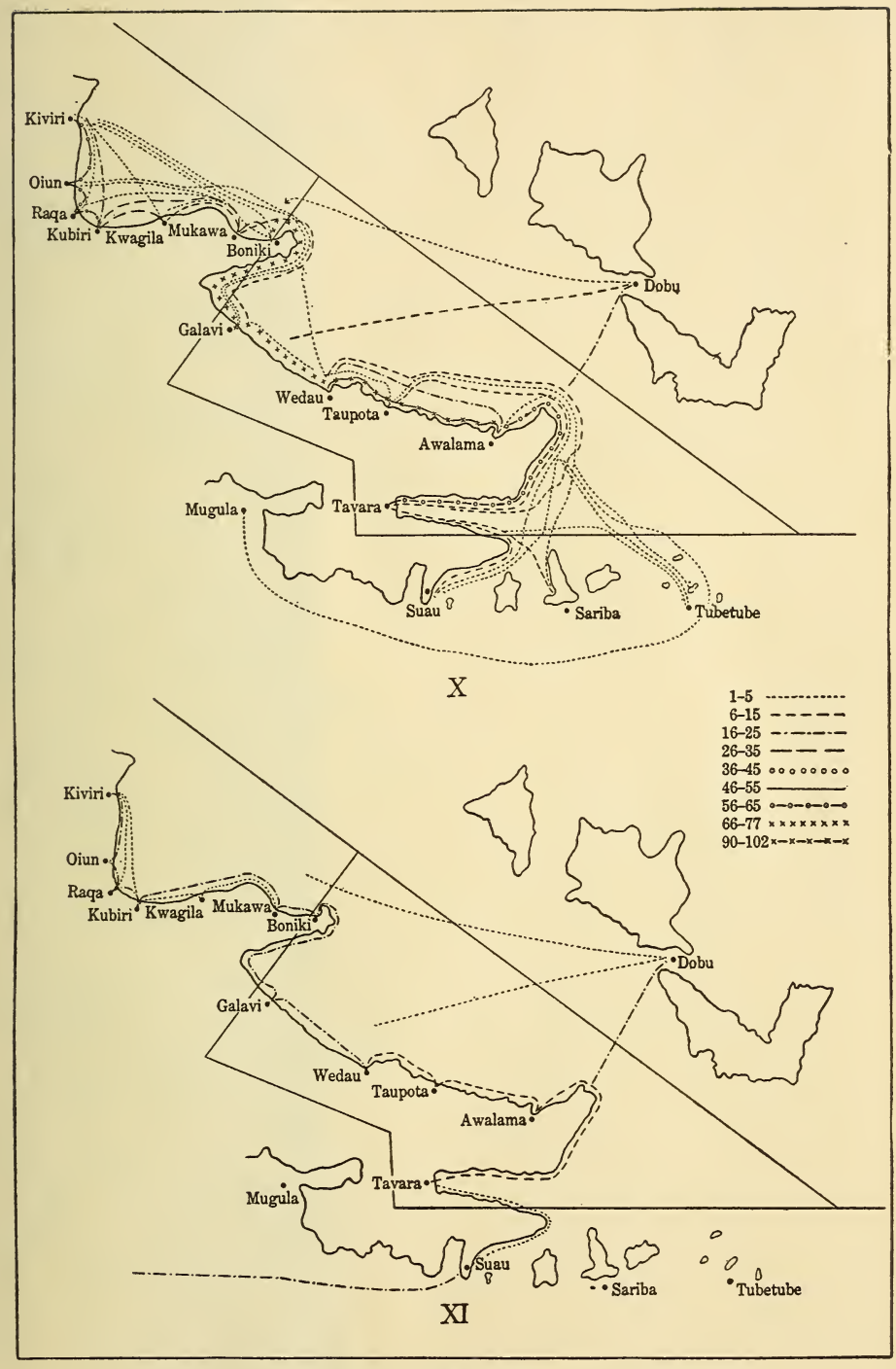


PAPUA, GULF COAST: VI, Melanesian. VII, Polynesian.

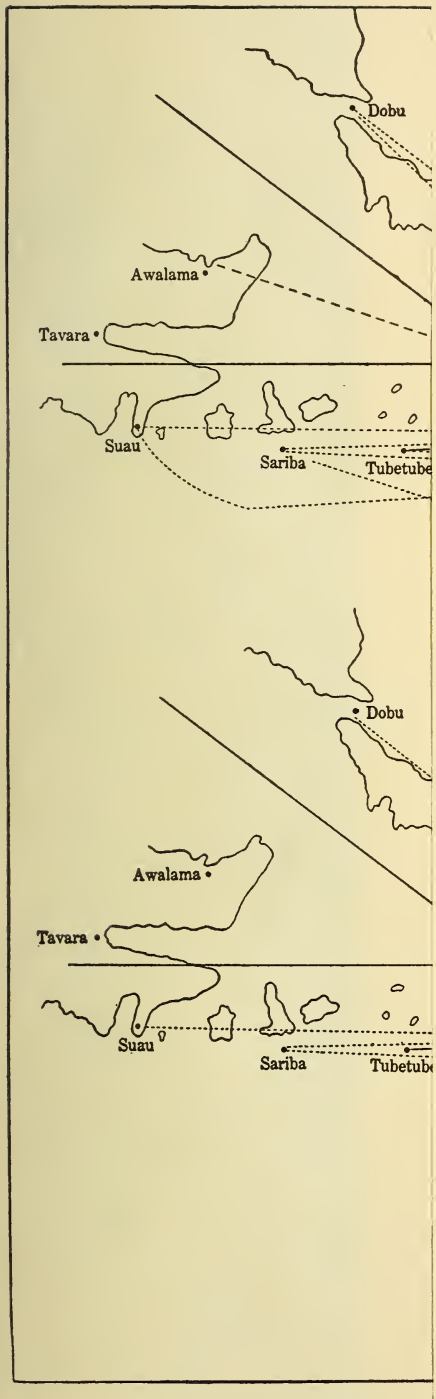
1–5 ·····
6–15 – – – – –
16–25 —·—·—·—
26–35 — — —
36–45 ∘∘∘∘∘∘∘∘∘
46–55 ————
56–66 ∘—∘—∘—∘—∘



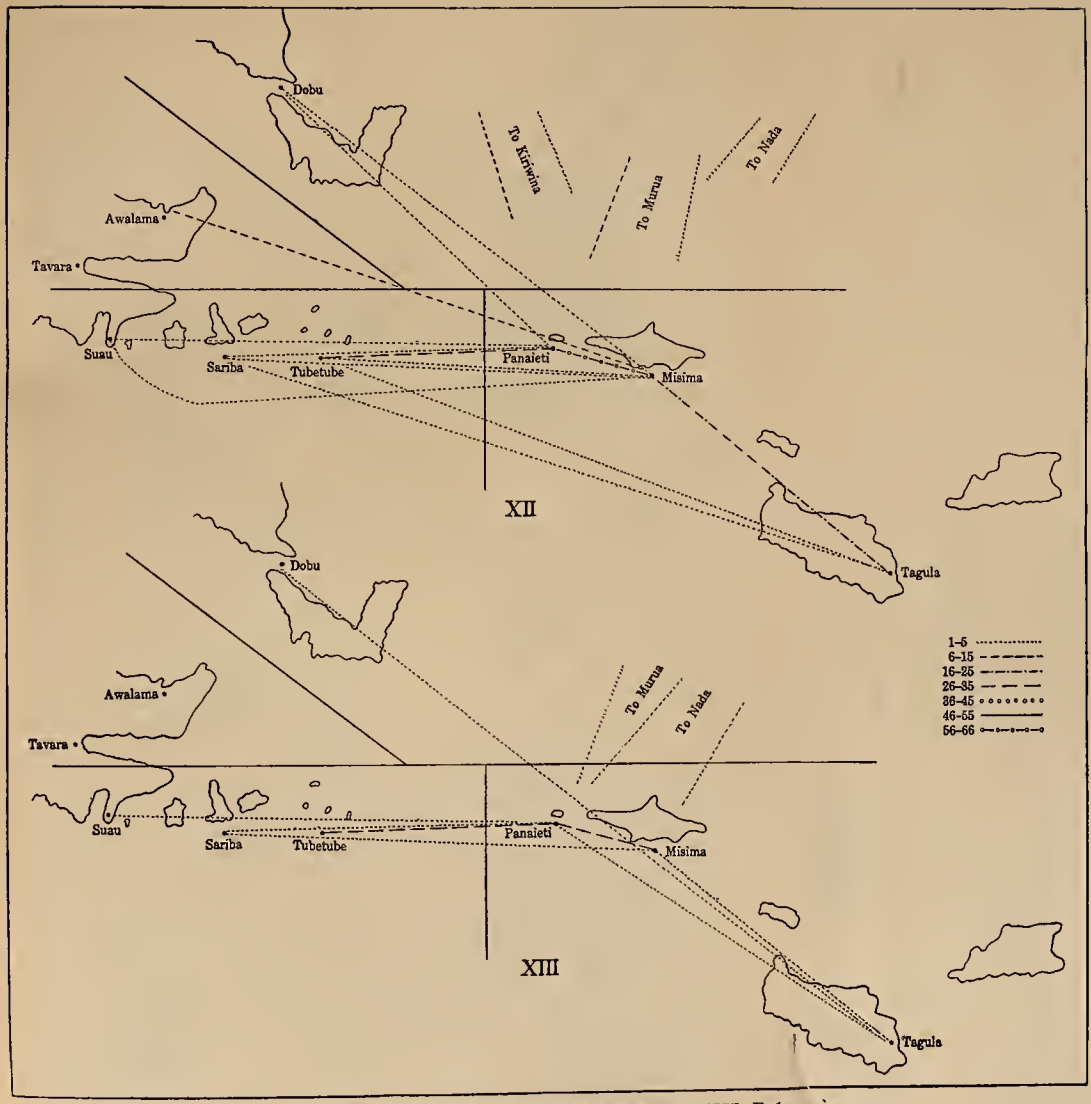
PAPUA, SOUTH CAPE: VIII, Melanesian. IX, Polynesian.



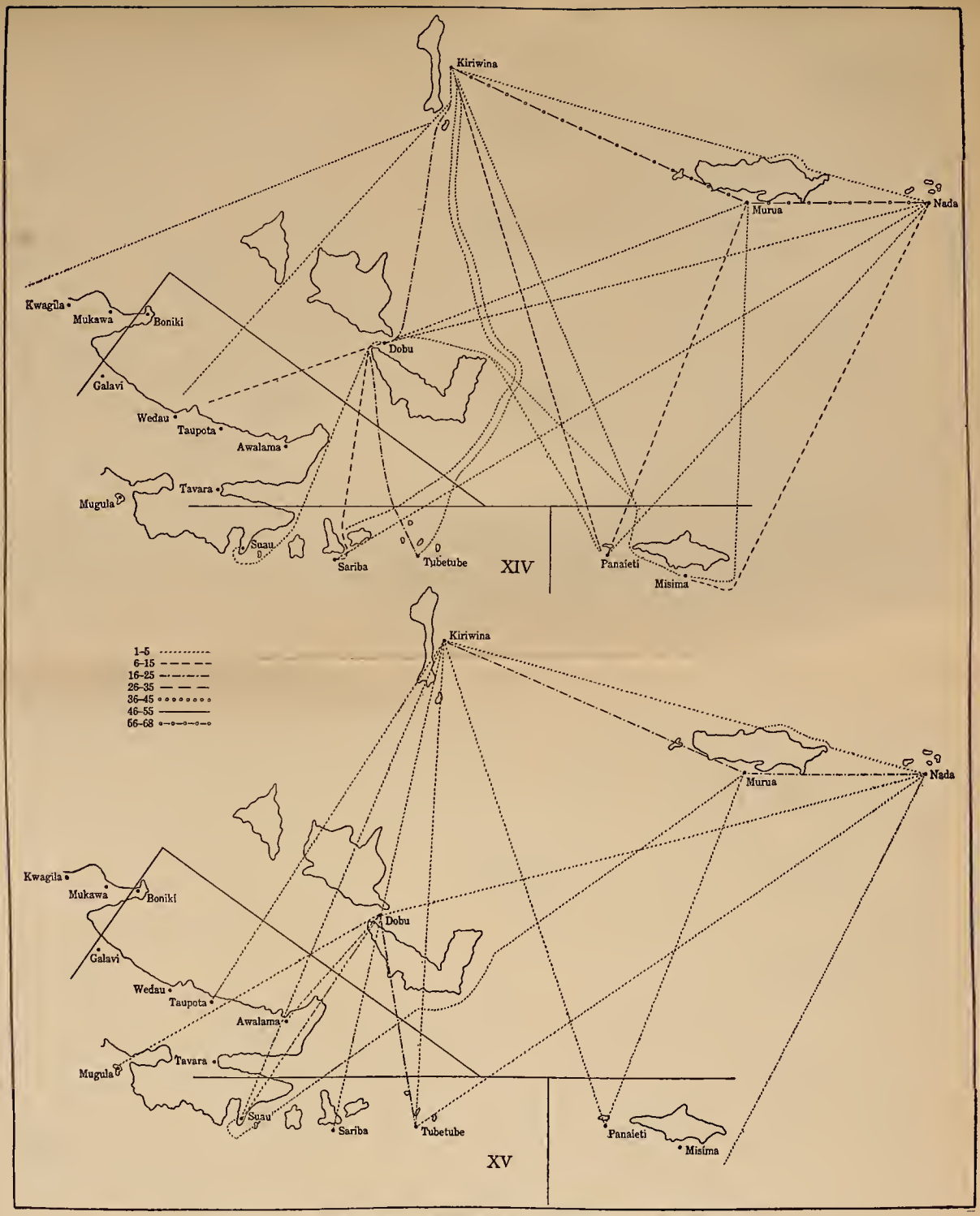
PAPUA, EAST COAST: X, Melanesian. XI, Polynesian.


Dobu
Awalama
Tavara
Suau
Sariba
Tubetube
Dobu
Awalama
Tavara
Suau
Sariba
Tubetube

PAPUA, LO

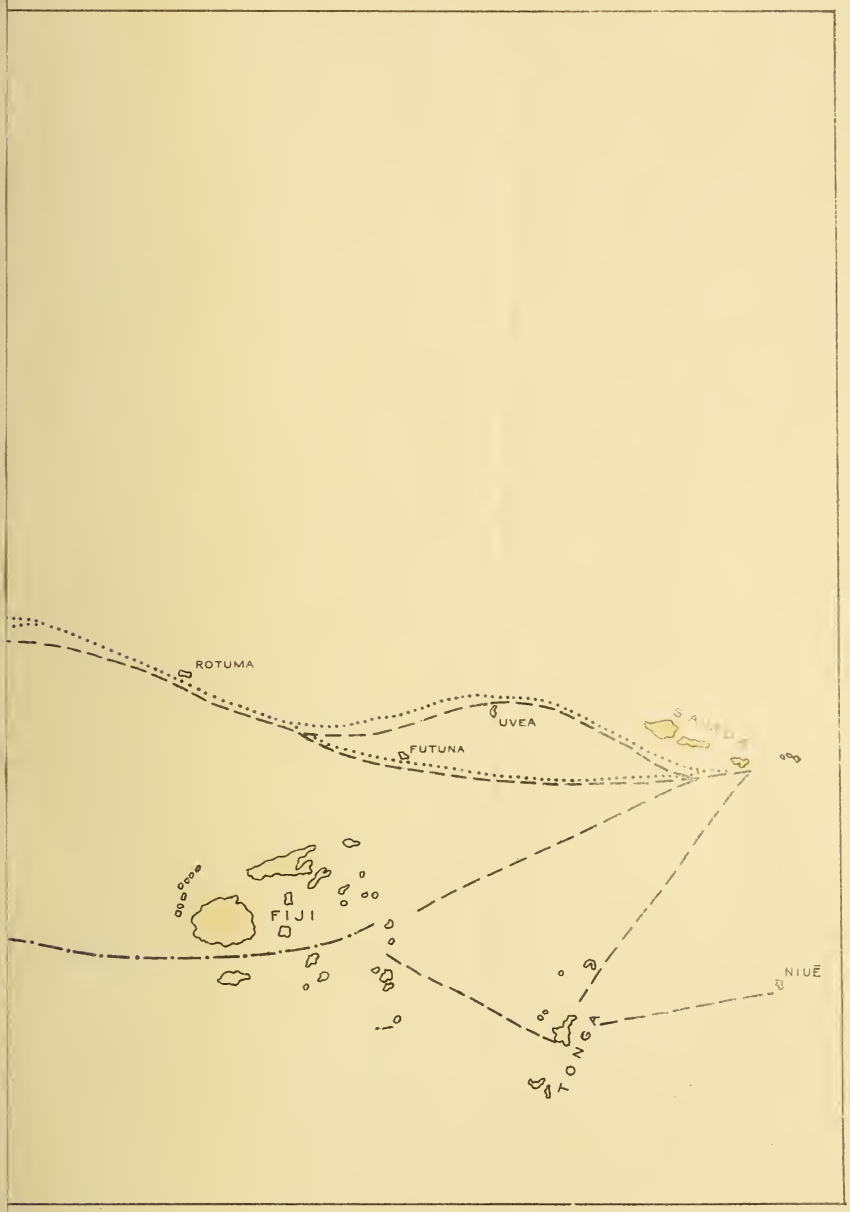


PAPUA, LOUISIADES REGION: XII, Melanesian. XIII, Polynesian.



PAPUA, DENTRECASTEAUX REGION: XIV, Melanesian. XV, Polynesian.

CHART XVI



MIGRATION TRACKS IN MELANESIA.


POLYNESIAN DISPERSION
SAMOA STREAM
VITI STREAM
UAP
ADMIRALTY
NEW HANOVER
NEW MECKLENBURG
NEW GUINEA
NEW POMERANIA
Vitiaz Str.
Dampier Str.
LOUISIADES

Migration Tracks in Indonesia.